

Iran Section

Hossein Askarian Abyaneh

IEEE Iran Section Report

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Section Vitality

The last elections were in December 2022, with Prof. Hossein Askarian Abyaneh elected as chair and Prof. Vahid Ahmadi elected as Vice-Chair. Also, Dr. Hadi Ali Akbarian and Dr. Mohammad Reza Yousefi were the Secretary and Treasurer, respectively. It should be noted that 615 members participated in this election. Iran Section's next election is in December 2024. Some activities will be conducted in order to make the Vice-Chair become the next Chair; however, it depends on the final results of the elections. The Iran Section holds meetings at the end of each month. Since the last report, four meetings have been held focusing on the section's strategic plan (one of the most important tasks in which all committees, affinity groups, and chapters are involved in developing the plan), reviewing award nominees, and planning for the 15th Iran Section Awards Ceremony.

Students

List of Student Branches (SB) in your Section, the newly formed or dissolved SBs, if any since the last meeting reporting. List the student meetings held and Section activities addressed to Students and Young Professionals.

Currently, we have 58 Student Branches (SB). Some of the members of SBs are members of the Students Activities Committee (SAC) and all 15 committees of the Section which helps the section body to be more dynamic.

- We held the 14th IEEE Iran Section Awards Ceremony (February 2024). This meeting is extremely important since it brings together the entire section and beyond.
- The 21st Annual Meeting with Student Branches Counselors and the IEEE Iran Section Executive Committee. In the presence of members of the student branches, instructors, advisors, and the executive committee, along with a visit to the Communication and Information Technology Research Institute in Feb. 2024.
- Achieving the position of the best counselor by the University of Tehran student branch in Feb. 2024.
- Active participation in R8 meetings.
- Cooperation with the student scientific organization
- Revision of regulations for student awards in Feb. 2024.
- Holding a meeting with the board of directors of all branches and counselors of the branches in Feb. 2024.
- Compilation of regulations for the review of student conferences
- · Active presence of SC students in assemblies, committees, and other parts of the Iran Section
- · Support and design of the Upside-Down World podcast contest.
- Cooperate in holding a series of scientific meetings in Dec. 2023.
- · Cooperation in holding student workshops.
- Introduction to artificial intelligence held by Technical and Vocational University of Shahrekord Student Branch jointly with Electrical Scientific Association of the Faculty in cooperation with the Computer Scientific Association of Junqan Girls' Technical and Vocational College.
- Number 1 of Parto Danesh student magazine was published to the franchisee of Technical and Vocational University of Shahrekord Student Branch.
- Familiarity with LinkedIn social network held by Technical and Vocational University of Shahrekord and Shahid Beheshti University Student Branches.
- InDesign introductory training held by Technical and Vocational University of Shahrekord and Shahid Beheshti University Student Branches.
- "Search Engine Optimization (SEO) Specialist" training course held by Buein Zahra Technical University Student Branch in coopration wih Web Development Company (iwebyar.ir).
- Introducing the Discord social network held by Technical and Vocational University of Shahrekord and Qom technical university Student Branches.
- Python training course zero to hero Organizer: Kurdistan University Student Branch
- "(7+1)-Hour Seminar and Workshop on Challenges Toward Graduate Studies" Organizer: IEEE University of Tehran Student Branch Co-organizer: College of Engineering, University of Tehran Date: September 8, 2024
- · "Comprehensive Online Training on MATLAB Software" Organizer: IEEE Iran Section BZTE Student Branch
- "Online Training on Electrical Panel Wiring with ePLAN (Overview of Industrial Automation Equipment)" Organizer: IEEE Iran Section BZTE Student Branch
- "Generative Adversarial Networks and Their Use in Automatic Generation of Various Data Types (Image, Signal, and Text)" Organizer: IEEE Shahreza Student Branch



- "InDesign Software Training Workshop" Organizers: IEEE Technical and Vocational University of Shahrekord Student Branch and IEEE Shahid Beheshti University Student Branch
- "Planting for the Future" Organizer: Center for Development of Leadership Technologies, Scientific Deputy and Knowledge-based Economy of the Presidency, in collaboration with the Connectivity and Communication Technologies Development Headquarters
- "Workshop on Writing Proposals, Theses, Articles and Presentation Skills" Organizer: IEEE Shahreza Student Branch
- "Specialized Training Course on Computer Network Concepts CompTIA Network+" Organizers: Department of Free and Virtual Education of the Technical and Vocational University in collaboration with the IEEE Student Branch of Shahrekord Technical and Vocational University
- "Scientific Graphs Using MATLAB and MS VISIO" Organizer: IEEE Iran Section, BZTE Student Branch Coorganizer: Microelectronics Academy
- "Third episode Elec Tech Cast Podcast: Introduction to Smart and Micro Grids" Organizer: IEEE Iran Section, Kurdistan Student Branch
- "Educational Advancement & Industry Interaction for Students in Germany" Organizer: IEEE University of Kurdistan Student Branch
- "6G Wireless Communications: Technologies and Future Perspectives" Organizer: IEEE Shahreza Student Branch In collaboration with: Shahreza Higher Education Center
- "The Challenges of Sustainable Energy Supply in the Era of Energy Transition" Organizers: IEEE Iran Section Power Chapter and Iran Grid Management Company
- "A Review of Design Optimization Methods in Engineering Concepts" Organizer: IEEE Shahreza Student Branch Collaboration: Shahreza Higher Education Center
- "Tea Break Series: A Cup of Hot Tea with the Taste of Relay (First Program)" Organizer: IEEE Iran Section, Shahreza Student Branch Collaboration: Shahreza Higher Education Center
- "Enhancing Power Grid Resilience Against Wildfire" Organizer: IEEE Iran Section, KNTU Student Branch
- "Introductory Course on Altium Designer Software" Organizer: IEEE Shahreza Student Branch in collaboration with Shahreza Higher Education Center
- "Open Robots: From Modeling to Control and Applications" Organizer: IEEE Shahreza Student Branch in collaboration with Shahreza Higher Education Center
- "Industry Connection Webinar" Organizer: IEEE Kurdistan Student Branch
- "Visit to 63 kV High Voltage Substation in Hakim Elahi Shahreza" Organizer: IEEE Shahreza Student Branch in collaboration with Shahreza Higher Education Center
- "Elec Tech Cast Podcast: Smart Grid Microgrid Part 2: Interview" Organizer: IEEE Iran Section Kurdistan Student Branch
- Proteus Training Course Organizer: IEEE Student Branch of Shahid Beheshti University
- Online Animation Workshop with CANVA Organizer: IEEE Student Branch of Shahid Beheshti University
- IELTS Preparation Course Organizer: IEEE Iran Section BZTE Student Branch
- "Power Electronics Circuit Simulation Course using MATLAB Simulink" Organizers: IEEE BZTE Student Branch in collaboration with the Electrical Engineering Scientific Association of Iran University of Science and Technology
- "Introduction to Internet of Things (IoT) Technology and Its Applications" Organizers: IEEE Student Branch of Shahrekord Technical and Vocational University in collaboration with IEEE Student Branch of Kurdistan Technical and Vocational University
- Free LinkedIn Training Webinar Organizers: General Education Company in collaboration with IEEE Shahid Beheshti University Student Branch
- "Comprehensive ICDL Training Course" Organizers: Shahid Beheshti University Student Branch and Technical and Vocational University of Shahrekord Student Branch in Collaboration with General Education Company

Affinity Groups

Young Professional Committee

Plans and Missions:

• Serve young professionals with tailored events and initiatives to encourage networking, career development, and leadership in their early careers.



- Providing instructive materials for IEEETV.
- Evaluate career goals, refine skills, and grow a professional network for young professionals.
- Provide professional development opportunities for Young Professionals and create the building blocks for lifelong and diverse professional networks.
- Making connections and holding meetings with different YP branches among region 8 universities.
- Bridge the transition of Student members to Section members and encourage recent graduates to stay IEEE member.
- Support the establishment of YP Groups helping identify volunteers and training them.
- Maintain an advisory relationship with the local YP Affinity Group and provide guidance such as, new initiatives or assistance in the procurement of funds for activities that support the objectives of IEEE.

Activities done by YP:

- In IEEE Iran Section Young Professionals Committee, we are excited to announce the launch of a new podcast series titled "Inspiring Journeys." In this podcast, we engage in enlightening conversations with accomplished and influential Iranians, both within and beyond our country's borders, who have made significant contributions to research fields relevant to IEEE. The purpose of this podcast is to serve as an audio repository of memories, life stories, and the challenging yet rewarding paths taken by Iran's scientific pioneers. These narratives will be saved in our nation's scientific history, serving as a wellspring of inspiration for future generations. Moreover, it stands as one of the premier platforms for the transfer of knowledge from seasoned experts to young professionals.
- Provide tailored events and initiatives to support young professionals, fostering networking opportunities, career development, and leadership skills early in their careers. Additionally, offer online webinars presented by industry experts and reputable companies to help young professionals evaluate their career goals, enhance their skills, and expand their professional networks
- Introducing a new column in the IEEE Newsletter dedicated to representing the achievements of Young Professionals. In this column, we try to highlight the monthly accomplishments of Iranian young professionals, providing a platform for increased interaction and discussions within the community. Through this initiative, we aim to celebrate the successes of our members while fostering greater connections and collaboration among young professionals in Iran.
- Establishing connections and organizing meetings with various Young Professional branches across universities in Region 8. Given the proximity of the neighborhood to Turkey, we have facilitated meetings between young professionals from the Iran and Turkey sections, including universities such as Gazi University. These gatherings aim to foster dialogue and collaboration on shared projects and future opportunities for scientific cooperation among young professionals

Establishing Planning Committee

This committee was created to perform the plans made in the 5-year strategic plan and their results. Consequently, this committee evaluates the plans, which are correlated to the scope of the strategic plan, under the responsibility of Dr. Khaki Sedigh.

Life Member:

Establishing IEEE Iran Section Life Member Affinity Group (LMAG), Oct. 2023.

The Petition form for establishing the IEEE Iran Section Life Member Affinity Group (LMAG) was submitted first online on November 11, 2022, and then on October 12, 2023, by email to the IEEE Petition Processing Office, including the names and signatures of six IEEE life members. This petition has been cleared by legal and compliance and is waiting for clarification from IEEE relative to any United States OFAC financial sanctions.

WIE:

The mission of WIE is to participate, encourage, and empower women in science and technology around the world, specifically in Iran. Our vision is a vibrant community of IEEE men and women who, collectively, use their diverse talents to innovate for the benefit of humanity.

Women in Engineering branch of IEEE Iran, under the management of Dr. Azimifar, to facilitate the status and career advancement of women in engineering and science and to promote efficient cooperation between engineers and scientists through the Women in Engineering (WIE) network.



Activities done by WIE since the last report

- Collaboration and Interaction with the Dubai were side performed by the chair of the WIE committee.
- Holding a series of scientific meetings:
 - o WIE Conference
 - The Autumn meeting of women in engineering was jointly organized by the women's branch of the IEEE Iran Association and the National Conference of Artificial Intelligence and Software Engineering at Shiraz University. Highly regarded female professors and engineers delivered six uplifting and professional talks. Over 100 academics and engineers attended the event. As expected, the summit was very well received.
- · WIE Professional Development
- Acknowledging 50 years of dedication to advancing engineering in Iran by the honored Mrs. Engineer Minoo Namatolahi, distinguished emeritus of Shiraz University
- Generative AI for Women (Supported by the Ministry of ICT)
- It was initiated by 155 female team registrations and closed by awarding the 18 best innovative ideas using Gen AI.
- Leading Women in Engineering Webinar
- Economic, Artistic, and Research Facilitating Ideas based on Generative Artificial Intelligence for Women, Events
- Event of Artificial Intelligence in Fashion
- Economic simplifications for women in engineering and business seminars

Educational Activities Committee (EAC)

- Key Concepts in the Blockchain Technology Workshop
- Deep Learning Workshop
- · Hyperledger Fabric Technology Workshop
- How to Write a Research Paper Webinar
- · Discover the Golden Point Webinar
- Lecture by Eng. Hassan Etaat, Career Path Design for Young Graduates
- Lecture by Dr. Mehdi Shami Zanjani on digital transformation
- · Lecture by Dr. Karim Mohammadpour Aghdam, Industry Relations Panel
- Near Field Antenna Pattern Measurement Webinar
- · Swarm Robotics in Oil Spill Monitoring and Cleanup Webinar
- Introduction to IEEE Women in Engineering
- Haptic Technology in Intraocular Surgeries Webinar
- The first course of workshops for managers and activists in the field of the Internet of Things with the LoRaWAN approach,
- Step-by-step principles for starting and developing a startup,
- Developing a business plan and model,
- Digital marketing,
- · Legal issues of starting a business,
- Interpersonal Influence in Computer-Mediated Interactions.
- Speech by Maciej Borówka, Chair of the IEEE District 8 Student Activities Committee
- Speech by Prasanth Mohan, Student Awards Officer, IEEE MGA Student Activities Committee

Publications Committee

This committee has two international magazines, which provide context to expand the section's performance in this field. As a responsibility, this committee evaluates the current publications and expands the scope and context of the future ones.

Ethics Committee

This committee is responsible for sharing engineering ethics and the IEEE ethics program with the students.



As of the main activity:

The **First Student Ethics Competition** performed by the section:

The first IEEE Student Ethics Competition in Iran took place on December 21st, coinciding with the Ikram Conference at the Master Jabehdar Maralani Hall, Faculty of Electrical and Computer Engineering, Technical Faculties of the University of Tehran. After the collection of team presentation files by the competition supervisors, the official opening ceremony commenced at 10 a.m. with a speech by Prof. Reza Faraji Dana, the head of the Ethics Committee of IEEE Iran Section. Teams presented their prepared materials for 10 minutes each and answered judges' questions within 5 minutes. After the presentations, judges conducted final evaluations and selected the top two teams. The closing ceremony, featuring a speech by Prof. Hossein Askarian Abyaneh, the esteemed chair of the IEEE Iran Section, concluded with the announcement of results and appreciation for the judging team, winning teams, and the competition's executive staff

Professional Activities Committee (PAC)

Professional Activities at IEEE Iran Section include:

- Holding meeting, talks, and conferences
- Designing and holding competitions and challenges
- Providing and expanding the networks
- · Providing publications and contents
 - All focused on the non-technical aspects of technology careers
- The main purpose of these activities are summarized as:
 - Helping members of IEEE Iran section:
 - o To reach the public
 - o To develop an awareness of professional issues o To develop their professional skills like
 - o Finding a job searching o Communications o Project management

Missions:

- · Develop programs within the scope of professional activities
 - O To provide additional value for members of IEEE in the Section
- Recruit volunteers to ensure the continuity of professional activities in the Section
- · Promote professional interests of the Iran section members on their professional needs
- Encourage and support the sections in ensuring the professional growth of the members
- Work with others in the Region to encourage, develop, and nurture programs that stimulate interest in science, technology, engineering, and math of pre-college students and encourage their later participation in the IEEE.
- Coordinate the work to optimize the effectiveness of the professional activity interface with Region, state and local government entities.
- Encourage student branches to hold events to promote professional awareness.

Responsibilities:

As part of its role, Professional Activities Sub-Committee aims at reaching out to members and achieving the aforementioned goals by taking the following actions:

- Organizing workshops
- Funding attendance of speaker(s) in events organized by another IEEE Section
- Representing IEEE and its members at national/international levels
- Facilitating availability of PA-related resources through webinars, websites, etc
- Publicizing PA products and services through written material
- Attending PA-related IEEE Activities
- Enhancing the knowledge on the productions of PA-related materials

In the fall of 2023, the Professional Activities Committee of the IEEE Iran Section, in collaboration with the Information and Communication Technology Research Institute, organized two lectures focused on professional topics relevant to IEEE members.



The first presentation, titled "Artificial Intelligence: Applications and Challenges with an Organizational Approach," was delivered by Dr. Ahmad Ali Abin, Associate Professor at Shahid Beheshti University and visiting researcher at LIFAT Laboratory, University of Tours, France. Dr. Abin discussed AI and machine learning techniques in organizational advancements and the functional differences between various levels of machine intelligence.

The second presentation, "Challenges, Fears, and Hopes for Knowledge-Based Companies in the Electrical and Computer Fields in Iran," was given by Dr. Amir Hossein Jahangir, Associate Professor at Sharif University of Technology and CEO of the knowledge-based company "Shetab Saman." Dr. Jahangir shared his extensive experience in producing and managing knowledge-based companies and discussed the economic viability of technology-based production in Iran.

The committee also approved a document introducing the Professional Activities Committee and a framework for professional courses for electrical and computer engineering graduates. The framework aims to develop professional skills in three areas: soft and communication skills, entrepreneurship and specialized business skills, and writing skills, comprising 16 courses. Additionally, the committee is providing advisory and moral support for the "Smart Load Management" challenge to be held in 2024.

Chapters

Planning to establish two new chapters in Biomedical Engineering and Electron Devices

Currently, we have 6 active Technical Chapters as follows:

- 1) Communications and Information Theory Chapter
- 2) Control Systems Chapter
- 3) Electromagnetics and Photonics Joint Chapter
- 4) Power Chapter
- 5) Electronic Circuits and Systems Joint Chapter
- 6) Computer Engineering Joint Chapte

Activities done by Technical Chapters

- The Challenges of Sustainable Energy Supply in the Era of Energy Transition" Organizers: IEEE Iran Section Power Chapter and Iran Grid Management Company
- First Joint Meeting of the Telecommunications Chapter of IEEE Iran Section and Telecommunications Industries: Topic: "Challenges of Implementing the Fifth Generation of Mobile Telecommunications (5G) and Prospects for the Sixth Generation of Mobile Telecommunications (6G)"
- Control Chapter Periodical Meetings
- · Holding a series of scientific meetings
- Holding two virtual meetings to review and evaluate the following two international conferences:
 - 10th International Conference on Industrial and Systems Engineering
 - The 5th National and 1st International Conference on Applied Research in Electrical Engineering
 - ICROM 2023, 11th RSI International Conference on Robotics and Mechatronics.
- 10th International Conference on Web Research (ICWR 2024)
- ICCIA 2023, 9th International Conference on Control, Instrumentation, and Automation.
- ICIS 2024: 19th Iranian Conference on Intelligent Systems
 - Holding four virtual meetings to evaluate IEEE Awards regarding
 - The best lifetime research award
 - The best candidate for the Prof. Jabehdar award
 - The best candidate for the Prof. Caro Lucas award
 - The best M.Sc. thesis award
 - Holding a scientific lecture at two medical conferences regarding the use of artificial intelligence in the diagnosis of diseases
 - The presence of the representative of the specialized control assembly in the standard committee (Dr. Ali Akbar Afzalian)
- Electromagnetic and Photonic Chapter Periodical Meetings:
 - o An Exceptional Lightning Research Facility in the Swiss Alps by Prof. Farhad Rachidi



- o A Holy Grail Quest: The Concept of Stored Electromagnetic Energy by Prof. Guy A. E. Vandenbosch
- Computer Chapter Periodical Meetings:
 - Holding two webinars on security and the legal challenges of privacy and data for 5 hours
 - o Holding a soft skills training webinar by Dr. Taghi Yare for 2 hours
 - \circ Compilation and finalization of Dr. Anwari's award regulations and presentation of the first award this year
 - Compilation and finalization of regulations for computer student chapters and their approval
 - Developing cooperation guidelines with institutions to carry out the project
 - O Developing guidelines for the implementation of joint projects with the Research Institute of Communication and Information Technology
 - Evaluation and scoring of IEEE annual award applicants and presentation to the awards committee
 - o Evaluation of more than 10 conferences in the field of computer and information technology and presentation to the conference committee
 - O Holding a "Persian text analysis in social networks" event, The "Text Analysis in Persian Language on Social Networks" event, held at the Research Institute of ICT, aimed to boost Persian language presence online through AI tools. Organized by the ParsiAzma Lab and IEEE Iran Section, the team "StateOfTheArt@AUT" from Amirkabir University won the first prize of eighty million tomans. Addressing the challenge of Persian language processing in the digital realm, the ParsiAzma Lab, launched a year ago, focuses on utilizing the nation's academic expertise. This competition reflects their recent efforts.
- · Power Chapter Periodical Meetings:
 - o Round Table on Sustainable Electricity Supply, peak load
 - o The 1st IEEE-Iran Section and IGMC General Meeting, AI Application in Modern Power Systems,
 - $_{\odot}$ $\,$ The 2^{nd} IEEE-Iran Section and IGMC General Meeting, Demand Side Management in Modern Power Systems
 - Flexible Distributed Energy Resources, Virtual webinar by Prof. Gevork B. Gharehpetian
 - Cybersecurity and Resilience Enhancement of Smart Grids Webinar
 - o Fault Location in a Power Network Using Time Reversal Theory Webinar
 - o Electronics Chapter Periodical Meetings

First Electrical Energy Podcast Competition

The IEEE Power Society Iran Section and Iran Grid Management Company organized three sessions titled "Applications of Artificial Intelligence in Modern Power Networks" on November 8, 2023, "Demand Management in Modern Power Networks" on February 7, 2024, and "Challenges of Sustainable Power Supply in the Energy Transition Era" on June 12, 2024. These events featured prominent domestic and international professors and industry experts. The first event had over 2,000 participants, with an average of 800 participants across all three events attending online.

Notably, this marks the first time the IEEE Power Society Iran Section has collaborated with Iran Grid Management Company to organize periodic joint scientific events hosted by the latter, which is responsible for managing and operating Iran's national grid. The events were widely embraced by industry specialists and academic researchers.

The event series has a scientific and policy council as well as an executive committee. The scientific council is responsible for determining the overall structure and framework, setting annual specialized themes, deciding on event execution, and reviewing and approving executive committee proposals. The scientific council secretary coordinates meetings and activities under the council's supervision.

The academic members of this council include Dr. Hossein Askarian (Chair of IEEE Iran Section and faculty member at Amirkabir University), Dr. Gharehpetian (Chair of IEEE Power Society Iran Section and faculty member at Amirkabir University), Dr. Mohammad Sadegh Ghazizadeh (faculty member at Shahid Beheshti University), Dr. Touraj Amraee (member of IEEE Power Society Iran Section and faculty member at K.N. Toosi University of Technology), and Dr. Majid Sanaye-Pasand (faculty member at University of Tehran).

The industry members include Mehdi Moghimzadeh (CEO of Iran Grid Management Company), Dr. Mostafa Rajabi Mashhadi (CEO of Tavanir Company), Ardeshir Mazkouri (Deputy of Planning at Iran Grid Management Company), Dr. Iman Rahmati, Dr. Amin Helmzadeh, Dr. Mohammad Khaji, and Dr. Adel Mohseni (Director of Research and Technology Development at Iran Grid Management Company). Ms. Zohreh Kakaei serves as the secretary of the executive committee.



The first joint session focused on applications of artificial intelligence in modern power grids. The power industry spokesman highlighted the company's main missions, including managing 600 power plants and electricity data. The role of AI in load forecasting, detecting cyber attacks, and power system operation was discussed. Professor Mohammad Shahidehpour from the USA and Professor Jamshid Aghaei from Australia were keynote speakers, addressing machine learning methods and their applications in power systems.

The second session aimed to improve electricity demand management in modern power grids. Topics included using AI in power systems and challenges in electricity demand management. Speakers also addressed the role of citizens, business potentials, and demand management in future electricity markets. The main goal was to bridge perspectives between the power industry and universities for implementing valuable findings and experiences in the country's power industry. Mr. Saeed Mohazzab Torabi, Chairman of the Energy Services Companies Association, and Professor Miadreza Shafiei-Khah from Finland were featured speakers.

In the third session, the CEO of Tavanir Company announced that ensuring stable power supply during the energy transition is one of the country's main challenges. To address imbalances, emphasis was placed on using renewable energies, especially solar power plants. It was also stated that mandatory pricing on one hand and global sanctions on the other play a significant role in creating the current imbalance, requiring the development of national solutions. The Ministry of Energy has taken measures such as launching green and free boards in the Energy Exchange, which can help encourage investment in this field. Speakers at this session included Dr. Abbas Maleki from Sharif University of Technology, Dr. Kioumars Heydari from Iran's Power Research Institute, and Dr. Amjad Anvari-Moghaddam from Aalborg University in Denmark and Chair of the Denmark Section.

For more information about this event, please visit https://gm.igmc.ir.

Electromagnetics and Photonics Society

In addition to continuing monthly meetings, the main activities of the Electromagnetics and Photonics Society, one of the active societies of the IEEE Iran Section, are reported as follows:

- Holding a meeting with university representatives to introduce the society, its goals, and provide suggestions for more active communication with representatives, such as:
 - o Participating in society meetings at least once per quarter
 - Collaborating in conference evaluations
 - o Informing about workshops and webinars at their respective universities
 - o Encouraging students to participate in workshops and webinars
 - o Introducing outstanding theses and dissertations to the awards committee
 - o Introducing notable faculty members to the society
 - Promoting IEEE membership
- Organizing an international webinar featuring Prof. Jasmin Grosinger, Prof. Jae-Sung Rieh, and Prof. Shiban Koul
- Updating the society's biennial program
- Hosting a webinar titled "A Holy Grail Quest: The Concept of Electromagnetic Energy" on November 7, 2023, presented by Professor Vandenbosh from the Catholic University of Leuven, Belgium. His research interests include electromagnetic theory, computational electromagnetics, planar antennas and circuits, nano-electromagnetics, electromagnetic radiation, EMC, and bioelectromagnetics. His scientific research and efforts have resulted in the publication of 425 articles in reputable international journals and 430 papers in international conferences. Professor Guy Vandenbosh has been an active member of European "Management Committees" in the field of COST cooperation in antennas since 1993.
- Organizing a webinar titled "An Exceptional Lightning Research Facility in the Swiss Alps" on February 7, 2024, presented by Professor Farhad Rachidi, a distinguished professor and head of the EMC Laboratory at the Swiss Federal Institute of Technology in Lausanne, Switzerland.

Industry

Two-year plan

- 1 Holding meetings to advance executive actions at necessary times
- 2 Participating in important industry-related events
- 3 Supporting and developing programs for student engagement with industry
- 4 Participating in activities and meetings of other committees in the Iran section



- 5 Presenting lectures and scientific content at scientific and industrial events
- 6 Participating in international meetings of IEEE committees and engaging in their scientific activities
- 7 Assisting in attracting industry support for organizing scientific events
- 8 Enhancing industry's understanding of IEEE and its scientific activities

Executive Priorities

- Developing connections between students and faculty with industry
- Expanding industry connections with universities and their capabilities
- Enhancing industry's understanding of IEEE and its scientific and research activities

Completed Activities

- Participated in the Tehran Telecom international exhibition and presented a lecture on the country's industrial capabilities in the field of optical telecommunications industry in autumn 2023
- Organized a seminar introducing Co-Op programs to develop and strengthen student presence in industry
- Participated in a Ministry of Science meeting to introduce ministry initiatives for strengthening internships and greater collaboration between universities and industry
- Developed cooperation and participation of the IEEE Iran section with the association of knowledge-based companies
- Collaborated and participated in strengthening relations between the Iran section and Turkey section through establishing cooperation between Iran and Turkey sections in the Iran-Turkey Chamber of Commerce. This helps deepen understanding and industrial-commercial relations between the two countries through IEEE
- Presented the country's scientific and industrial capabilities by participating in international conferences and scientific assemblies through IEEE faculty members from Iranian universities

Diversity, Equity and Inclusion

The Meeting of Women in Engineering was jointly organized by the IEEE Iran Section Women's in Engineering Committee and the National Conference on Artificial Intelligence and Software Engineering.

The secretary of this meeting was Dr. Somayeh Afrasiabi, who holds a Ph.D. in Biomedical Engineering, Bioelectric, and is an Assistant Professor in the Department of Electrical and Electronic Engineering, Biomedical Engineering Group, at Shiraz University.

Among the speakers at this meeting was Dr. Maryam Dehghani. She is currently a faculty member of the School of Electrical and Computer Engineering at Shiraz University and conducts research in the field of dynamics and control of power systems and control applications in power systems. Dr. Dehghani's presentation topic was the role of IT in modern power grids.

In traditional power grids, electricity flowed unidirectionally from power plants to consumers. In modern power grids, an IT network layer is placed over the power grid, measuring network data from various points and sending it to the control center. The device responsible for measuring voltage and current data is called a Phasor Measurement Unit (PMU). This device is installed in power substations and, after acquiring data from voltage and current transformers, equips them with a time stamp received from GPS and then sends them to higher layers of the IT network. In this webinar, phasor measurement units and PMU networks were first introduced. Then, their applications in changing the approach of various power grid studies from model-based to data-driven were discussed. Using PMU data, it is possible to estimate power grid quantities and perform other analyses based on data received from PMUs, eliminating the need for model-based methods. Finally, new challenges of this scheme, including sensitivity to cyber attacks, were discussed, and methods for detecting and correcting information under such conditions were presented.

At this meeting, one of Shiraz University's pioneers, Ms. Minoo Nematollahi, the first graduate of the School of Engineering at Shiraz University, was honored. She is recognized as one of the elites and pioneers of Shiraz University, with more than fifty years of teaching experience and outstanding achievements in various fields of engineering. After entering Shiraz University in the early 1940s in Chemical Engineering, she became a distinguished professor by teaching and researching in the fields of oil refining, oil and gas reservoir engineering, and hydrocarbons. From 1964 to 2014, with a different perspective on science, she transferred more than five decades of her experience to students and also presented the book "Fifty-Year History of the School of Engineering" as a memento of this era. While establishing two oil laboratories and a physical chem-



istry laboratory, she also engaged in research activities and contributed significantly to the development of science and industry in research areas. Additionally, Ms. Nematollahi played a prominent role in educating young generations by establishing the Engineering School Alumni Association and has played a very effective role in improving the level of knowledge and scientific understanding of society by holding retraining courses and publishing newsletters titled "Association Message". Ms. Minoo Nematollahi, with a history full of scientific and educational honors, is an outstanding example of successful and influential women in the field of engineering. Her life is an example that shows that will, effort, and love for knowledge are the keys to success in any field.

Another woman honored at this meeting was Ms. Simin Mehdizadeh. She is the founder of the National Health Physics Award and one of the country's most prominent scientific figures, who has achieved remarkable honors as a distinguished pioneer in various scientific and research fields and has made numerous efforts towards the development of knowledge and technology. Ms. Mehdizadeh, with outstanding education in chemical engineering and nuclear engineering from Shiraz University, is not only the first student of nuclear engineering in the country but also the founder of the Nuclear Engineering Department at Shiraz University. She has had very successful activities as the head of student empowerment courses and the head of reputable research centers in the fields of radiation and health physics. Moreover, Dr. Mehdizadeh has played a prominent role in promoting the university scientific community and supporting women scientists and researchers by establishing the Shiraz University Women Professors Charity as an active social center. With commendable follow-ups, Ms. Mehdizadeh succeeded in reopening the Nuclear Engineering Department of Shiraz University and has achieved outstanding results in various research fields and nuclear technology development.

The meeting also honored Dr. Manijeh Keshtgari. She was a faculty member at Shiraz University and Shiraz University of Technology from 1993 to 2016. In 2016, she joined the School of Computer Engineering at Georgia University and is currently teaching undergraduate and graduate courses there. In the spring of 2020, she received the Excellence in Teaching Award from her department. Among her activities, she has been the director of an event called "Girls Code" aimed at encouraging female students to choose computer science as their field of study.

Another woman honored at this meeting was Ms. Soheila Mohebbi. In addition to introducing her multifaceted personality and extensive professional activities, one can mention her role as the CEO of Mehr Koosh Fars Company (producer of dairy products and ice cream under the Mehr Koosh 125 brand) and the establishment and management of a two-hectare greenhouse in the Bidzard region (producing various ornamental roses, strawberries, and various vegetables). She has outstanding educational backgrounds in Business Administration (DBA) and a Master's degree in Food Science and Technology Engineering from Tehran Science and Research University, and a Bachelor's degree in Food Science and Technology Engineering from Shiraz University. Her executive background and experiences also include economic and social consulting in women's and family affairs in Fars province, management and planning of dozens of meetings, seminars, and conferences at national and provincial levels, and more.

Among the speeches given during this meeting, one can mention the speech by Dr. Tahereh Talaei. Dr. Tahereh Talaei, a Ph.D. graduate in Anatomical Sciences from Mashhad University of Medical Sciences, works as a professor in the Department of Anatomical Sciences at Shiraz University of Medical Sciences and is also a member of the Tissue Engineering and Cell Therapy group at the School of Advanced Medical Sciences and Technologies. Her main research expertise is in regenerative medicine and tissue engineering, which includes studies in techniques and technologies used in the reconstruction of human organs and tissues. She is also active in the technology of developing applications for teaching anatomical sciences. Based on her speech, it can be understood that the need for educational equality and justice, and the increase in the costs of specialized education, are among the reasons that have pushed educational systems towards virtual education. With the development of smart mobile technology, universal access to this topic, and the enthusiasm of many users to use it, an approach based on using this device in advancing educational goals has begun. Using mobile phones in education gives the user the chance to engage in an educational process at any time of the day or night regardless of location, while offline education based on educational content such as CDs and DVDs or educational programs based on personal computers does not have this feature. Therefore, learning is transitioning from a state limited to space and place to a dynamic and flexible state.

One of the laboratory courses for medical students is histology. Teaching this course depends on viewing slides with different magnifications of body tissues, ehistolab is a virtual microscope application with digital histology slides that has high-resolution focusable images for general and specialized histology education, which provides the ability to ask and answer questions with professors through online chat and contains schematic images, the ability to search for the desired slide, explanations, and schematic figures for educational assistance.

Specialized Sessions of the Event "Economic, Artistic, and Research Facilitation of Ideas Based on Generative AI for Women"

The IEEE Iran Section, in collaboration with the ICT Research Institute, organized 7 sessions as follows to familiarize participants with generative AI and brainstorm ideas in various fields:

1. Generative AI in the field of art, fashion design, and fashion



- 2. Generative AI in the field of health and medical services
- 3. Generative AI in the field of e-commerce
- 4. Generative AI in the field of text content production
- 5. Designing business models in the field of AI (first session)
- 6. Designing business models in the field of AI (second session)
- 7. Entrepreneurs are not exceptions

The content of these educational brainstorming sessions was based on the fundamentals of AI, basics of generative AI, models and tools of generative AI, applications and use cases of generative AI in the relevant field, market for generative AI products in the relevant field, required datasets in the relevant field, business canvas and business model, entrepreneurship, opportunities, and challenges.

For more information and to view the sessions, please visit: https://seminar.itrc.ac.ir

Recognition of Top Women's Ideas in Generative Artificial Intelligence

The first phase of the event "Economic, Artistic, and Research Facilitation of Generative AI-Based Ideas for Women" began at the Information and Communication Technology Research Institute with the participation of women interested in artificial intelligence. The IEEE Iran Section, in collaboration with the Information and Communication Technology Research Institute and the Women's Affairs Department of the Ministry of Communications and Information Technology, organized the "Generative AI for Women" event. This initiative aims to empower women who, despite having high potential for ideation in the field of generative AI for economic, artistic, and research activities, have been unable to operationalize this potential due to family responsibilities.

The opening ceremony of this event was held with the presence of the Minister's Advisor on Women's Affairs at the Ministry of Communications and Information Technology, the Deputy of Research and Development of Scientific Communications at the Research Institute, and women interested in this field. At the beginning of the opening ceremony, Dr. Alireza Yari, Deputy of Research and Development of Scientific Communications at the Information and Communication Technology Research Institute, stated that the institute has always welcomed such events. He added, "Today, generative AI is one of the world's hot topics, and businesses are concerned about how to generate income from this subject. In this event, we have considered the goal of turning generative AI into commercial projects".

He further explained, "Today, with the existence of generative AI, the role of humans has changed compared to the past. One of the concerns that has arisen with the advent of generative AI is that some people claim we will lose our jobs. It's true that some jobs will be eliminated, but more jobs will be created alongside this technology".

It's worth noting that on the first day of this event, specialized workshops were held simultaneously and separately in 4 areas: art and fashion design, health and medical services, e-commerce, and text content production, with the participation of attendees, mentors, and research institute managers. In these workshops, participants were divided into teams of 4 to examine their ideas in the field of generative AI and, with the guidance of mentors and support from the research institute, to pave the way for the commercialization of these ideas in the future.

In January 2024, prizes were awarded to the best ideas by the Information and Communication Technology Research Institute. It should be noted that Mobinnet Company plays a role as a scientific and financial supporter in this event.

For more information, please visit: gaiw.itrc.ac.ir

Activities since the last report

- Attending IEEE Sections Congress 2024, Vienna, Austria, 2–3 March 2024
- Attending the 121st IEEE Region 8 Committee Meeting in Vienna, Austria, 2–3 March 2024
- Call for Collaboration with IEEE Iran Section Newsletter Committee Organizer: IEEE Iran Section Newsletter Committee
- Publication of the 32nd issue of IEEE Iran Section Newsletter
- Webinar: From Information Literacy to AI Literacy" Organizer: IEEE Iran Section
- "Predicting brain activity using transformers technical talk" Organizer: IEEE Iran Section
- · "Application of blockchain platform and smart contract technologies in system development
- "Application of blockchain platform and smart contract technologies in system development" Organizers: ITRC, IEEE Iran Section, and various other academic and research institutions
- "Specialized Session: Critique of Government Administrative Transformation Programs from the Perspective of Organizational Architecture" Organizers: Same as above



- "Specialized Session: Advances in Organizational Architecture in the Telecom Sector" Organizers: Same as above
- "Specialized Session: Health of Organizational Architecture and Organizational Architecture in the Health System" Organizers: Same as above
- "Specialized Session: Advances in Organizational Architecture in the Banking Sector" Organizers: Same as above
- "Neuroscience and Organizational Architecture" Organizer: 7th National Conference on Organizational Architecture Advancements
- "Business Process Modeling and Process Mining with ProcessMaker and Celonis Software" Organizer: 7th National Conference on Organizational Architecture Advancements
- "Composable Architecture and Its Role in Banking Industry Transformation (Presenting a Case Study Based on BIAN Standard)" Organizer: 7th National Conference on Organizational Architecture Advancements
- "Working with ChatGPT Skills" Organizer: 7th National Conference on Organizational Architecture Advancements
- "A Case Study of an Architectural Design Approach in Development Planning: The Health System Architecture Designed in the Integration of the Fifth Development Plan" Organizer: 7th National Conference on Organizational Architecture Advancements
- "The Role of Identity Management in Organizational Architecture" Organizer: 7th National Conference on Organizational Architecture Advancements
- "What is Architectural Debt and How Should It Be Managed?" Organizer: 7th National Conference on Organizational Architecture Advancements
- "Sustainable Growth with Business Portfolio Management: How Can Companies Move Towards Sustainable Growth Using Architecture with a Balanced Business Portfolio?" Organizer: 7th National Conference on Organizational Architecture Advancements
- "Platform for Integrating Organizational Services" Organizer: 7th National Conference on Organizational Architecture Advancements
- "What is Data Governance and Why Do Organizations Need It?" Organizer: 7th National Conference on Organizational Architecture Advancements
- "A Holy Grail Quest: The Concept of Stored Electromagnetic Energy" Organizer: ITRC, IEEE Iran Section
- "Regulatory Frameworks and Desirable Governance in Information Infrastructure" Organizer: ITRC, IEEE Iran Section
- "Examining Indicators and Methods for Measuring Service Quality and User Experience Quality in Networks" Organizer: ITRC, IEEE Iran Section
- "Financial Funding in the Information Infrastructure of the National Information Network" Organizer: ITRC, IEEE Iran Section
- · "Architecture and Integration Solutions for Data Analysis" Organizers: ITRC, IEEE Iran Section
- "Information Infrastructure Requirements of National Information Network" Organizers: ITRC, IEEE Iran Section
- "Introduction to Foresight Process and Its Tools" Organizers: ITRC, IEEE Iran Section
- "The Role of Data Architecture in the Success of Legacy Software System Improvement Projects" Organizers: ITRC, IEEE Iran Section
- "Mutual Services of Data Governance and Data Fabric" Organizers: ITRC, IEEE Iran Section
- "Opening Ceremony of the Economic, Artistic and Research Facilitation Event for Ideas Based on Artificial Intelligence for Women" Organizers: ITRC (Iran Telecommunications Research Center), IEEE Iran Section, Ministry of Information and Communications Technology
- "IEEE Iran Section Ethics Student Competition" Organizer: IEEE Iran Section
- "Persian Text Analysis in Social Networks" Organizers: ITRC (Iran Telecommunications Research Center), IEEE Iran Section
- "AI Applications in Modern Power Systems" Organizers: IEEE Iran Section, IGMC (Iran Grid Management Co.)

Planned activities

Our future planned activities are as follows:

- Promotion of activities in international cooperation (participation in R8 committees)
- Invite prominent international researchers to introduce their program and activities in person or online
- Holding regional and international events in Iran, (Fig. 15)



- Efforts to develop and promote science and educational centers in the country
- · Promote and develop industry relations to increase the growth of technology at the national level
- Cooperation with scientific research institutions and scientific associations
- Develop and promote the level of student activities
- Increasing the number of student branches in the country to expand the student network
- Introducing and promoting national awards in the fields of education, research, student branches, and volunteer
 activities
- Increase IEEE membership
- Preparation of Iran Section strategic plan, action plan, and roadmap
- Development of Technical Chapters' activities to expand the network of faculty and student members in the country

How Region 8 can be of help to your Section, members, and activities

As we mentioned in our previous reports, we are facing the following issues:

- Our members especially students cannot effort it which causes a decrease in membership statistics. R8 can help us to convince headquarters to set the membership fee based on our local currency.
- Although most programs like Member-Get-a-Member (MGM), Future 50, etc. are not available for our members so they cannot take benefit from such a program which causes loss of motivation in the members. We believe that if some programs become available for our members it will motivate our students and members to interact more with
- IEEE and its benefits

Executive Team

Full Name	Affiliation	Email Address
Mojgan Azizi	ICT Research Institute	m_azizi@itrc.ac.ir
Mohammad Ghaderzadeh	K. N. Toosi University of Technology	Ghaderzadeh@ieee.org
Abolfazl Qiyasi	Shamsipour Technical and Vocational College	a.qiyasimoghadam@gmail.com
Shiva Asfari	Amirkabir Universiity of Technology	asfari.shiva@gmail.com
Bashir Felegari	Tarbiat Modares University	Bashir.felegari@ieee.org
Danesh Amani	Tarbiat Modares University	Amani.danesh@ieee.org
Elham Khazaei	University of Tehran	elkh188@gmail.com
Seyed Mustafa Afzouni	Yazd University	smafzouni@gmail.com
Mohammad Hasan Azad	K. N. Toosi University of Technology	mhazad1999@gmail.com
Amir Hossein Bagheri	K. N. Toosi University of Technology	amirhb.bagheri@gmail.com
Mahdi Abbasi	Islamic Azad University, Science and Research Branch, Tehran	mahdiabbasi1100@gmail.com
Mohsen Boroughani	K. N. Toosi University of Technology	mohsenboroughani@yahoo.com
Ehsan Soleimani	K. N. Toosi University of Technology	ehsan.soleimani22277@gmail.com
Pouya Ahadi	Iran University of Science and Technology	pouya.ahadi@gmail.com
Spideh Ebrahimian	Hamedan University of Technology Student Branch	s.ebrahimian1@gmail.com
Seyed Amin Atabak	Shahrekord Technical and Vocational University	aminatabak@gmail.com

The 14th IEEE Iran Section Awards Ceremony

The IEEE Iran Section annually invites professors, students, and industry professionals to nominate candidates for awards to enhance the scientific and industrial status of electrical and computer engineering in the country. The selected recipients are honored in a ceremony.

The 14th IEEE Iran Section Awards Ceremony was held on Wednesday, February 21, 2024, hosted by the Information and Communication Technology Research Institute (Iran Telecommunication Research Center, ITRC). Over 100 professors, student branch counselors, and students attended the event in the Shahid Atabaki Hall on the second floor of the institute. The ceremony was also broadcast live on Skyroom (a platform for online events).

The event began with verses from the Holy Quran and the national anthem. Then, Dr. Hossein Askarian Abyaneh, the current chair of the IEEE Iran Section, welcomed the professors and guests, thanked the section's supporters, and introduced the



executive board and committee of the IEEE Iran Section. He emphasized the valuable activities in education and research to increase the country's international connections and support student activities. He then presented a report on the activities and performance of the IEEE Iran Section.

Dr. Askarian stated: "Currently, the association operates with 17 specialized committees and 58 student branches in universities across the country."

In line with the objectives of the IEEE Iran Section, the following valuable activities have been carried out:

- Enhancing international cooperation of Iran Section committees
- Helping improve national conferences technically and with scientific support
- Providing technical support for national conferences to register quality papers in the IEEE Xplore Digital Library
- · Organizing regional and international events in Iran and promoting educational activities in the country
- Introducing and promoting national awards in education, research, student branches, and volunteer activities
- Developing activities for young professionals, Women in Engineering (WIE), and other groups associated with this association
- Developing industry connections to increase technological growth at the national level
- Participating in the development of national standards
- Developing student branch activities and increasing their number in Iranian universities to expand the student network in the country
- Developing specialized society activities to expand the network of faculty members and students

He continued that during the past two-year period, important actions were taken as follows:

- Holding more than 23 executive board meetings
- Holding 25 executive committee meetings
- Holding annual student meetings and awards ceremonies
- Conducting over 50 speeches, webinars, meetings, workshops, and training courses
- Organizing an engineering ethics competition
- Organizing a data challenge event
- Organizing a Persian text analysis event in social networks
- Organizing a generative AI event for women
- Indexing more than 50 conferences in the IEEE Xplore Digital Library
- Publishing articles in the IEEE R8 Newsletter
- Publishing IEEE Iran Section newsletters
- Preparing reports introducing committees and the strategic plan of the IEEE Iran Section

He also noted that the IEEE Iran Section has taken a big step in the country's scientific growth and development by achieving important accomplishments over the past two years, including:

- Winning the Outstanding Medium-Sized Section Award in IEEE Region 8 in 2021
- Winning the Membership Growth Award in IEEE Region 8 in 2021 and 2022
- Selection of Dr. Gharehpetian as an IEEE Outstanding Author
- Registering the IEEE Iran Section
- Signing a tripartite memorandum of understanding between the Iran Section and the Turkey and UAE Sections
- Signing a memorandum of understanding titled "Development and Promotion of IEEE Standards Related to Tavanir's Activities" between Tavanir, Niroo Research Institute, and the IEEE Iran Section
- Signing a memorandum of understanding between the IEEE Iran Section and the Presidential Headquarters for Development of Connectivity and Communication Technologies

The ceremony continued with a video introducing the IEEE Iran Section Executive Committee for 2023 and 2024 and the awards to be presented. Then, Dr. Jalil Rashed Mohassel, Chair of the IEEE Iran Section Awards Committee, gave his speech. He first reported on the IEEE Iran Section awards and then explained the award evaluation process, which was based on self-nomination by volunteers or nominations by universities and branch counselors. He also mentioned the position of the Iran Section in IEEE Region 8 in terms of the number, quality, and breadth of awards.



The ceremony then proceeded with the introduction of the winners and the presentation of plaques and awards as follows:

- Top Entrepreneurs Award: Dr. Esmaeil Sanaei, founder of Petsa and Aria Hamrah companies.
- Prof. Caro Lucas Research Award: Professor Majid Nili Ahmadabadi from the University of Tehran.
- Prof. Fakhraei Research Award: Professor Omid Shoaei from the University of Tehran.
- Lifetime Teaching Award: Professor Mehdi Karari from Amirkabir University of Technology.
- Lifetime Research Award: Professor Majid Sanaye Pasand from Tarbiat Modares University.
- Prof. Jabehdar Maralani Education Award: Professor Masoud Shafiee from Amirkabir University of Technology.
- Prof. Hakkak Research Award: Professor Babak Hossein Khalaj from Sharif University of Technology.
- Young Researcher Award: Dr. Armin Salimi Badr from Shahid Beheshti University.
- Women in Engineering Award: Professor Bahareh Akhbari from K. N. Toosi University of Technology.
- Industry Veteran Engineer Award: Dr. Hossein Mohseni from the University of Tehran.
- Dr. Anvari Research Award: Dr. Mansour Jamzadeh from Sharif University of Technology.
- Outstanding Counselor Award: Dr. Saeed Akhavan from the University of Tehran.
- Best Ph.D. Thesis Award: Dr. Zohreh Sadat Miripour from the University of Tehran.
- Outstanding Ph.D. Thesis Award (joint): Dr. Tayebeh Jahani Nejad from Sharif University of Technology and Dr. Mehdi Ghotbi Maleki from Shahid Beheshti University.
- Best M.Sc. Thesis Award: Eng. Danesh Amani from Tarbiat Modares University.
- Outstanding M.Sc. Thesis Award (joint): Eng. Mohammad Amin Haghpanah from the University of Tehran, Eng. Ali Foroutan Nia from Ferdowsi University of Mashhad, and Eng. Hossein Niknejad from Hamedan University of Technology.
- Best B.Sc. Project Award: Ms. Fatemeh Zare Mehrjerdi from K. N. Toosi University of Technology.
- Outstanding B.Sc. Project Award: Mohammad Akbari from Shiraz University, Ashkan Safari from the University of Tabriz, Alireza Talebzadeh Nouri and Amir Mohammad Karbasi Rafsanjani from Islamic Azad University, Science and Research Branch.
- Best Student Branch Award: Ferdowsi University of Mashhad.
- Outstanding Student Branch Award (joint): Shahrekord University of Technical and Vocational, University of Tehran, and Sanandaj University of Technical and Vocational.

Trilateral Memorandum of Understanding between Iran, Turkey, and United Arab Emirates Sections

Through the efforts of the board of directors and the communications committee, a trilateral memorandum of understanding was signed between the Iran, Turkey, and United Arab Emirates sections. This agreement was concluded on September 30, 2023, to establish a framework for multilateral cooperation in achieving IEEE's main objective of promoting innovation and technological excellence for the benefit of humanity.

The vision of this memorandum includes collaboration between parties to cover objectives such as jointly and regularly organizing conferences, workshops, seminars, and other events; conducting joint projects and studies; inviting and exchanging views of scientists, researchers, and experts; and other types of activities as agreed upon. The three parties will annually determine other areas of cooperation and specific activities to be carried out in implementing this memorandum for the coming year. Each party will introduce an authorized representative to coordinate various actions throughout the implementation of this memorandum to facilitate different activities.

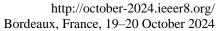
This memorandum is valid for a four-year period and will be automatically renewed for subsequent four-year periods unless amended with the written consent of all three parties or terminated by any of them with six months' prior written notice.

Closing Ceremony of the Economic, Artistic, and Research Facilitation Event for Generative AI-Based Ideas for Women

The closing ceremony of the national event "Economic, Artistic, and Research Facilitation of Generative AI-Based Ideas for Women" was held on Wednesday, January 3, 2024, at the Information and Communication Technology Research Institute. This event was organized by the IEEE Iran Section in collaboration with the Information and Communication Technology Research Institute and the Women and Family Affairs Department of the Ministry of Communications and Information Technology. The ceremony coincided with the auspicious birth anniversary of Hazrat Fatima (PBUH).

During this event, all participating women active in the field of artificial intelligence were honored, and the top ideas were introduced. Prizes were awarded to the best-ranked projects as a form of support. Dr. Razavizadeh, the head of the Information

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and Communication Technology Research Institute, opened the ceremony by commemorating Mother's Day and acknowledging the special status of women in the country. He also thanked the event organizers and described generative AI for women as an excellent opportunity to discover outstanding talents in the field of artificial intelligence.

Dr. Razavizadeh stated, "Artificial intelligence has two edges. The positive aspect is more prominent in the field of women's affairs, as AI can address many of women's problems and concerns, the most important of which is education." He further added, "Artificial intelligence will eliminate many discriminations in the work sphere and women's activities. However, it could also be a threatening factor for women in traditional occupations and may lead to the disappearance of these jobs in the future".

He continued by noting that today's approach of women towards employment in education and culture is very different. He said, "The world is progressing, and this event aligns our society with global advancements. Today, as artificial intelligence has entered human life, we cannot prevent this technology. We must create a suitable environment for this field in our country in line with this progress".

Dr. Mohammad Shahram Moin, the secretary of the event, presented a report on the organization and reception of AI enthusiasts. According to his report, the goal of this national event was to familiarize and empower female students and graduates with economic opportunities based on generative AI, create grounds for economic and income-generating activities from women's knowledge and expertise, and play a role in developing the country's digital economy. The event focused on four practical areas: art and fashion design, health and medical services, e-commerce, and textual content production.

The report stated that educational seminars were held on the basics of artificial intelligence, generative AI models and tools, AI applications and use cases, and required data in the business model canvas. Additionally, there were 7 specialized sessions, 17 meetings of the scientific committee and section heads, and 10 meetings of the executive committee.

It's worth noting that the ratio of married to single participants was equal, and the areas of greatest interest among female participants were education, content production, and health.

IEEE Iran Section Ethics Committee Competition

The first IEEE Student Ethics Competition in Iran was held on December 21, 2023, coinciding with the ICRAM conference, at the Professor Jabehdar Maralani Hall in the Faculty of Electrical and Computer Engineering, University of Tehran. Eight student teams from universities across the country participated in the event, organized by the IEEE Iran Section Ethics Committee.

To make this event as grand as possible, a call was initially made inviting teams from IEEE student branches across the country to participate in the student ethics competition. Subsequently, an informative-motivational session was held virtually to explain the competition process and attract teams. After the briefing session, eight teams eventually registered, and all documents, including the IEEE Code of Conduct and Code of Ethics, competition examples, and ethics competition regulations, were compiled and translated by the competition's technical-content committee and made available to participants on the competition website. All files and regulations were fully explained in the briefing session, and the competition's executive flowchart was thoroughly described.

On the day of the event, all participating teams received their identification cards before 8:00 AM. Then, after hearing explanations about the competition process, they randomly received packets containing the competition's challenge question, which included the challenge text, an image of the IEEE Code of Ethics and Code of Conduct, and the team's turn to present their materials to the judging panel. They were then directed to isolated rooms where the competition was held. Each team was assigned an isolated room with a computer without internet access. The teams then had about two hours until 10:00 AM to prepare their presentation files and solve the challenge.

The list of competing teams (in alphabetical order), along with the names of team members and their universities, is as follows (it should be noted that the team names were chosen by the teams themselves from landmarks and scientists, and their university names were not mentioned until the end of the competition):

- 1. Alamut Team from Iran University of Science and Technology: Ilia Amir Mostofian and Ehsan Vakili
- 2. Persepolis Team from Shiraz University: Erfan Raoufi and Aria Jamali
- 3. Khwarizmi Team from University of Tehran: Mohammad Reza Farhadi Nia, Erfan Zarei, and Morteza Khoshhal
- 4. Chehel Sotoun Team from Isfahan University of Technology: Zahra Akhund Mehdi and Nooshin Amini Bagh-
- 5. Siahkal Team from K. N. Toosi University of Technology: Hossein Heli, Seyed Mohammad Hosseini, and Ali Erfanian Farshad Mahboub



- 6. Shora Palace Team from Islamic Azad University, Science and Research Branch: Nisam Mirzaei and Amir Mohammad Karbasi Rafsanjani
- 7. Kino Team from Shahrekord Technical and Vocational University: Mehdi Saeedi Borujeni, Mohammad Mehdi Hafizi, and Amir Nikandish
- 8. Naqsh-e Jahan Team from Sharif University of Technology: Niloufar Latifian and Amir Masoud Jafar Pisheh

At the end, at 10 AM on the day of the event, after collecting the teams' presentation files by the competition observers stationed in the isolated rooms, the official opening ceremony of the competition began with a speech by Dr. Reza Faraji Dana, Chair of the IEEE Iran Section Ethics Committee. The teams then presented their compiled materials for 10 minutes each in the allotted time and order, followed by answering the judges' questions (within the allowed 5 minutes). After the presentations, the judges proceeded with the final review and selection of the first and second-place teams.

Finally, the competition's closing ceremony was held at 12:30 PM with a speech by Dr. Hossein Askarian Abyaneh, Chair of the IEEE Iran Section, announcement of results, and appreciation of the judging panel, top teams, and the competition's executive staff. The event concluded at 1:30 PM.

The final results of the competition and awarded prizes are as follows: First Place: Persepolis Team from Shiraz University (Ten million tomans) Second Place: Chehel Sotoun Team from Isfahan University of Technology (Five million tomans) Other teams (One million tomans for each team)

Names of the Competition Organizing Committee: Jury Panel: Dr. Ali Khaki Sedigh, Dr. Jalil Rashed Mohassel, Dr. Reza Faraji Dana, and Dr. Hossein Memarian Secretary: Dr. Amir Hossein Nikoufardd Executive Manager: Mr. Ehsan Shahi Technical-Content Committee Secretary: Ms. Minoo Jahansir Public Relations and Executive Committee Secretary: Ms. Paniz Mohsennia Graphics Committee Secretary: Mr. Mohammad Amin Mohammadioun Shabestari Audio-Visual and Multimedia Committee Secretary: Mr. Abolfazl Valizadeh Lakeh Executive Staff: Mr. Amir Hossein Bagheri, Mr. Mojtaba Kalantari, and Mr. Mostafa Khiabani Isolated Room Supervisors: Ms. Rojin Khalilian, Mr. Sina Hemmati, Mr. Amir Ali Ghaedi, Mr. Danial Daneshvar, Ms. Dina Moghimi, Mr. Mohammad Mehdi Ghasemi Matin, Ms. Parnia Goodarzi, and Ms. Nadia Khalili

It is hoped that the IEEE Iran Section Student Ethics Competition will be held every two years.

7th Iranian Conference on Enterprise Architecture (ICAEA 2023)

Iran Telecommunication Research Center (ITRC), in collaboration with the Iran Informatics Society and with the scientific support of the IEEE Iran Section, organized the "7th Iranian Conference on Enterprise Architecture" on November 15-16. The conference aimed to grow and develop enterprise architecture knowledge and make it applicable at the national level. This conference was planned for students, IT managers and experts, and those interested in the field of enterprise architecture. In this round of the conference, the main slogan was "Enterprise Architecture and Digital Governance." The composition of the organizing committee was aligned with this idea, and one of the research themes of the conference was dedicated to this topic. Additionally, to expand enterprise architecture services in industry, besides defining 8 research themes for paper submissions, the conference addressed the application of enterprise architecture in various industries and businesses, especially in the fields of ICT, smart cities, smart government, banking, energy, transportation, retail and digital marketing, healthcare, steel, and other sectors.

In addition to government organizations, supporters and participants from various industries and businesses joined the event. Moreover, due to the hosting by the Information and Communication Technology Research Institute, the presence of ICT companies was prominent, aligning with the conference's slogan. Accordingly, the conference workshops covered a wide range of audiences, particularly from industries and businesses, and 18 specialized workshops were introduced and conducted in collaboration with experts, practitioners, and conference sponsors.

This round of the conference also included 4 specialized sessions tailored to the current expectations and needs of society on the following topics:

- •Enterprise Architecture Advancements in Telecom
- •Critique of Government Administrative Transformation from an Enterprise Architecture Perspective
- •Enterprise Architecture Advancements in Banking
- •Enterprise Architecture Health and Enterprise Architecture in the Healthcare System

The keynote speakers of the conference were selected from well-known experts to cover the main topics of the conference and attractive themes:

- •Dr. Mohammad Khansari, Head of the Information Technology Organization
- •Dr. Mehdi Shami Zanjani, Faculty Member of the University of Tehran



- •Dr. John Gotze, Faculty Member of the IT University of Copenhagen, Denmark
- •Dr. Patrick Derde, Head of Information Architecture at BIAN

For more information, please visit:

https://icaea.ir.2023

The 21st Meeting of Student Branch Counselors and the Executive Committee of the IEEE Iran Section

The 21st meeting of student branch counselors and the executive committee of the IEEE Iran Section was held on Wednesday, February 21, 2024, with over 100 attendees from the executive committee, professors, counselors, and student branch members. The event took place in person at the Information and Communication Technology Research Institute, on the second floor of the Shahid Atabaki Hall, and was simultaneously broadcast live on Skyroom.

The ceremony began with verses from the Holy Quran and the national anthem. Mr. Ebrahimian, the event host, started the program by outlining the agenda.

Initially, Dr. Askarian, the chair of the IEEE Iran Section, welcomed the professors and guests, thanked the section's supporters, and introduced the global IEEE organization. He then introduced the main members and committees of the Iran Section and explained the activities carried out by various committees, such as webinars, workshops, student participation in international competitions, awards granted by the section to researchers and students, and the benefits of IEEE membership. Next, Dr. Pakravan, the chair of the Industry Relations Committee, was invited to deliver his speech. He discussed the committee's objectives, performance, and plans, emphasizing the goal of establishing connections with industry and business. Dr. Pakravan also mentioned the Co-op program, explaining its benefits and implementation. He further highlighted the progress of the electrical industry and its sub-branches in the country, as well as national empowerment initiatives.

Dr. Amir Abolfazl Suratgar, the chair of the Student Activities Committee, then presented a report on the committee's performance. He categorized student activities into 10 areas:

- 1. Membership expansion
- 2. Expansion of international activities
- 3. Expansion of competitions
- 4. Expansion of domestic and foreign industrial relations
- 5. Expansion of student scientific seminars and workshops
- 6. Expansion of activities leading to startups and collaboration with accelerators
- 7. Cooperation in organizing conferences
- 8. Scientific and industrial visits and creation of business clubs
- 9. Expansion of scientific trips
- 10. Efforts to establish Co-op programs

Dr. Suratgar thanked Dr. Askarian and Dr. Pakravan for their extensive efforts.

Dr. Nosratollah Granpayeh, the chair of the Educational Activities Committee, then began his speech. He introduced the committee, its performance, and plans. Dr. Granpayeh emphasized the committee's importance for the global community and technical experts, noting its significant role in improving global conditions through the application of technology and technical expertise. He described the "core values" as reliable services for human growth and the integrated development of the global community. Dr. Granpayeh also introduced the members of the Educational Activities Committee.

During the Q&A session, Dr. Tayefeh Mahmoudi, Ms. Mojgan Azizi, Dr. Suratgar, and Dr. Granpayeh answered students' questions and shared their opinions.

At the end of the ceremony, Ms. Mojgan Azizi thanked the executive team and requested that students and counselors maintain constant communication with the Iran Section and provide their constructive feedback and suggestions to the IEEE Iran Section office.

The event concluded with a tour of the Information and Communication Technology Research Institute.

Memorandum of Cooperation between the Connectivity and Communications Technology Development Headquarters, Vice Presidency for Science, Technology and Knowledge-Based Economy, and the IEEE Iran Section Student Branch

In May of the current year, a memorandum of understanding was signed between the IEEE Iran Section Student Branch and the Connectivity and Communications Technology Development Headquarters of the Vice Presidency for Science, Technology and Knowledge-Based Economy. The agreement was signed in the presence of Dr. Karbasi and Dr. Askarian, the Secretary of the Headquarters and the Chair of the IEEE Iran Section, respectively. The two-year agreement focuses on enhancing human capacity and promoting technology in the field of communications and information technology.

According to this memorandum, the Headquarters commits to:

- 1. Assist students in gaining access to industries related to connectivity and communications.
- 2. Expand membership of electrical engineering students and related fields in the IEEE student branch.
- 3. Invite Iranian professors from abroad to attend or deliver speeches at events.



- 4. Facilitate the participation of IEEE member faculty in international events.
- In return, the IEEE Iran Section agrees to:
 - 1. Assist and cooperate in designing and promoting actions related to the Headquarters' university projects.
 - 2. Allow the use of both organizations' logos in communications about related topics, with mutual coordination.
 - 3. Help establish effective networking among scientific associations in electrical engineering, computer science, and all related fields.
 - 4. Assist in obtaining discounts from IEEE for reducing costs of publishing articles approved by the Headquarters in IEEE publications.
 - 5. Help secure discounts from IEEE for registration and participation fees in international IEEE conferences for researchers approved by the Headquarters.
 - 6. Assist in creating and developing a network of promotional institutions for the Headquarters using the capacity of student branches.
 - 7. Enable student participation in IEEE events, webinars, training courses, empowerment programs, and generally all IEEE programs related to students at the lowest possible cost.

This cooperation aims to foster technological advancement and human resource development in the field of communications and information technology, benefiting both organizations and the broader scientific community in Iran.

Persian Text Analysis in Social Networks Event

The "Persian Text Analysis in Social Networks" event was held on October 11, 2023, at the Information and Communication Technology Research Institute (Iran Telecommunication Research Center). The event aimed to enhance Persian script and language in the virtual space using artificial intelligence tools. It was organized by the IEEE Iran Section and the Parsiazma Laboratory at this research institute.

In this event, the StateOfTheArt@AUT team from the Computer Engineering Department of Amirkabir University of Technology (team members: Mr. Mohammad Sobhi, Ph.D. student in Artificial Intelligence under the supervision of Dr. Zeinali, and Mr. Alireza Mazouchi, M.Sc. student in Artificial Intelligence under the supervision of Dr. Momtazi) won first place and received the 800 million Toman prize.

One of the main challenges for smart indigenous products and services is the processing and understanding of Persian script and language by computers. For this purpose, about a year ago, the Parsiazma Laboratory was established at the Information and Communication Technology Research Institute. Its mission is to address the challenges of the Persian language in the virtual space and solve them using the scientific capabilities of the country's researchers and academics. The organization of this competition and event is one of the recent activities of this group.

11th International Symposium on Telecommunications (IST)

With the grace of God, the 11th International Symposium on Telecommunications (IST), focusing on telecommunications in the age of artificial intelligence, will be held from October 9th to 11th, 2024. This event is organized in collaboration with the Communications Research Institute and the IEEE Iran Section, and will take place at the Information and Communication Technology Research Institute in Tehran.

The symposium aims to cover all topics related to information technology and telecommunications from various systems, emphasizing technical, security, legislative, regulatory, and economic aspects. It will encompass diverse subjects such as future technologies, systems, and networks (including AI-enabled networks, quantum communications and cyber-space security, wireless communications and mobile networks, internet), services, platforms, and devices (including AI-enabled services, data protection, user security and privacy, virtual platforms and social environments, augmented reality, and the Internet of Things).

With the theme "Telecommunications in the Age of Artificial Intelligence," this symposium strives to provide an opportunity for industry professionals and academics in the international telecommunications community to exchange findings, perspectives, and recent advancements in emerging technologies. The symposium's side events include keynote speeches, expert panel discussions, paper presentations, and educational workshops based on the symposium's theme.

Accepted papers will be submitted for indexing in the IEEE Xplore digital library.



"Leaving the Mental Comfort Zone" Workshop

On October 25, 2023, the IEEE Iran Section, in collaboration with the School of Electrical and Computer Engineering at the University of Tehran, hosted a workshop titled "Leaving the Mental Comfort Zone." Presented by Mr. Reza Basiri, this workshop examined and analyzed 18 mental comfort zone traps and the process of leaving this zone. The workshop was part of the "Personal Development - Soft Skills Development" series, aimed at enhancing participants' personal skills and soft capabilities.

Mr. Reza Basiri, with his experience and knowledge, helped participants take effective steps towards personal growth and development by recognizing mental comfort zone traps. The enthusiastic attendance of students and professors demonstrated the importance and necessity of the topics discussed.

Participants gained new perspectives on leaving their mental comfort zones and facing life and work challenges by leveraging the presented material. The IEEE Iran Section and the School of Electrical and Computer Engineering at the University of Tehran expressed satisfaction with the successful organization of this workshop and the warm reception from participants. They announced that they would continue to hold such workshops in the future to provide students and interested individuals with more educational and developmental opportunities.

Ethics Committee Meeting Updates

In the Ethics Committee meeting on December 26, 2023, the committee recognized the efforts of the secretary for organizing the Student Ethics Competition in Iran and the advisor to the IEEE Student Branch at the University of Tehran. Appreciation plaques were also issued and presented to the School of Electrical and Computer Engineering at the University of Tehran and the IEEE Student Branch at the University of Tehran for hosting the Student Ethics Competition in Iran.

It was decided to collect feedback from the competition judges and their opinions on the judging form while thanking them for their participation. In the January 23, 2024 meeting, it was approved that the news of the Student Ethics Competition should be sent to news agencies and simultaneously to the webmasters of major universities by the competition secretary. It was also decided to publish the discussions from the Ethics Committee meetings regarding ethical challenges in the country's science and technology space in the form of clips, brochures, and posters.

In the February 20, 2024 meeting, the committee summarized the materials developed in the 2023 meetings on the topic of ethical challenges in the country's science and technology space and approved the calendar for the Ethics Committee meetings in 2024.

Educational Activities Committee

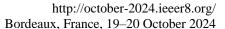
In the meeting held on November 20, 2023, the committee reviewed the regulations for organizing and supporting scientific events and discussed amendments, including how to issue certificates to participants and organize events for student branches. Updating and implementing necessary changes to the educational regulations were also discussed. The effectiveness of recent workshops held at Shahid Beheshti University and the completion and dispatch of related certificates were reviewed. Finally, Dr. Taghiyareh planned for organizing soft skills workshops.

Scientific Seminar on "Financing Information Infrastructure of the National Information Network"

To increase awareness in the field of financing, a scientific lecture on "Financing Information Infrastructure of the National Information Network" was held on Monday, September 18, 2023, by the IEEE Iran Section in collaboration with the ICT Research Institute. The event took place at the institute with the presence of experts and specialists.

In this scientific-specialized seminar, which was held in-person with experts and specialists in attendance, Dr. Ehsan Arian-yan (faculty member and head of the IT Research Institute at the ICT Research Institute), Dr. Fatemeh Farzin (senior investment assessment expert at the Innovation and Prosperity Fund), and Dr. Amir Hossein Mozayani (research deputy of the Economics Research Institute at Tarbiat Modares University) gave separate panel presentations on financing the information infrastructure of the National Information Network.







According to this report, the specialized seminar on "Financing Information Infrastructure of the National Information Network" first addressed the position of the digital economy in the national economy, then discussed methods of project financing and existing upstream documents directly and indirectly related to the five sub-ecosystems of the study topic (including data centers, cloud infrastructure, government cloud, special ICT zone, and content delivery networks). The seminar also presented a picture of the market size in the information infrastructure of the National Information Network and the required investment in this field, considering the Seventh Development Plan. Finally, the most important identified methods for financing the information infrastructure of the National Information Network were introduced to the attendees. At the end of this specialized seminar, attendees engaged in Q&A and discussions about financing the information infrastructure of the National Information Network.

Those interested in the topics of this specialized seminar can access the full content at seminar.itrc.ac.ir.



Pictures



Figure 1. The 14th IEEE Iran Section Awards Ceremony



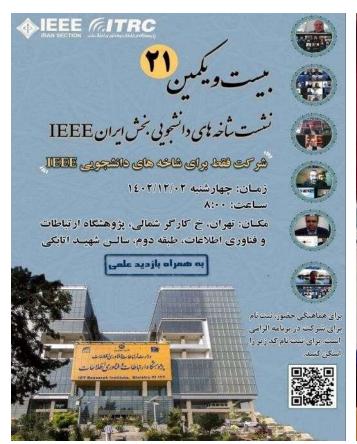
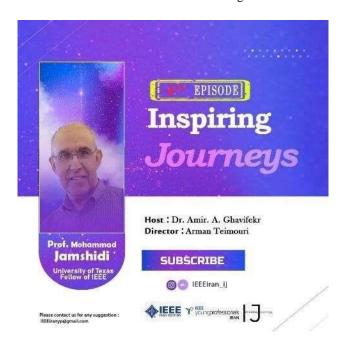




Figure 2. Student Branches General Meeting

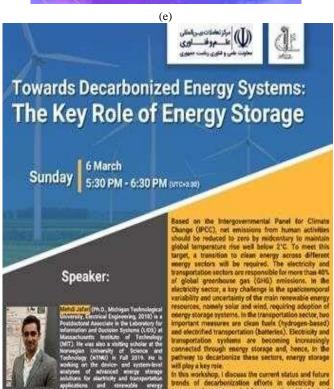














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Figure 3. Young Professionals Committee events















Figure 4.

Ethics Compitition





Figure 5. "Economic, Artistic, and Research: Facilitating Ideas based on Generative Artificial Intelligence for Women"





Figure 6. Power Electronics Circuit Simulation Course using MATLAB Simulink





Figure 7. Publication of the 32nd issue of IEEE Iran Section Newsletter

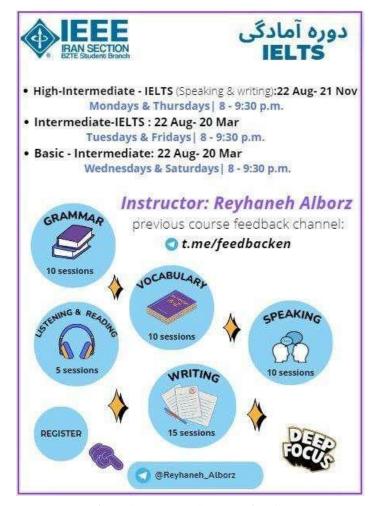


Figure 8. IELTS Preparation Course





Figure 9. Call for Collaboration with IEEE Iran Section Newsletter Committee





Figure 10. Introduction to Internet of Things (IoT) Technology and Its Applications





Figure 11. Free LinkedIn Training Webinar



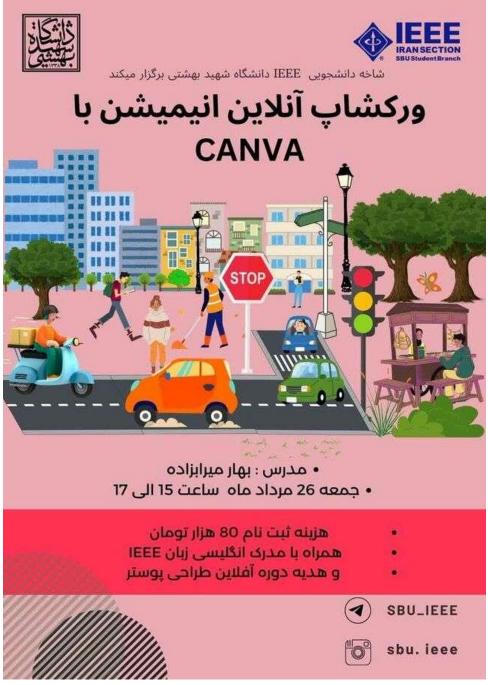


Figure 12. Online Animation Workshop with CANVA





Figure 13. Proteus Training Course



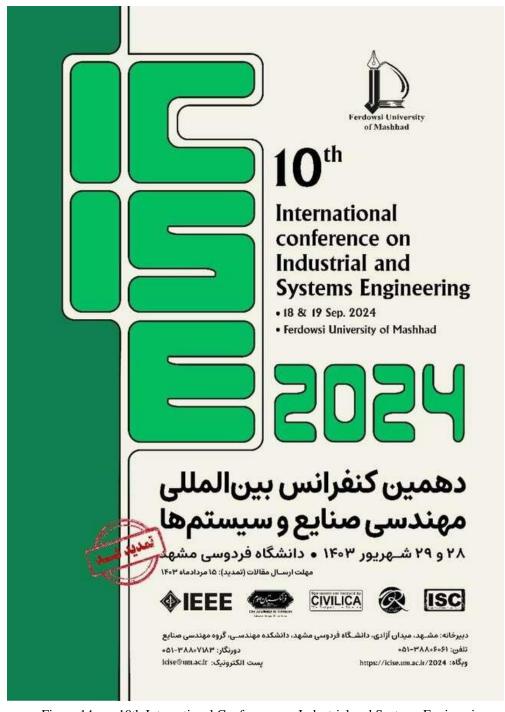


Figure 14. 10th International Conference on Industrial and Systems Engineering





Figure 15. The 5th National and 1st International Conference on Applied Research in Electrical Engineering





Figure 16. IEEE Iran Section Women in Engineering Summit





Figure 17. IEEE Young Professionals Iran Virtual Meeting





Figure 18. Webinar: From Information Literacy to AI Literacy





Figure 19. "First Joint Meeting of the Telecommunications Chapter of IEEE Iran Section and Telecommunications Industries" Topic: "Challenges of Implementing the Fifth Generation of Mobile Telecommunications (5G) and Prospects for the Sixth Generation of Mobile Telecommunications (6G)"





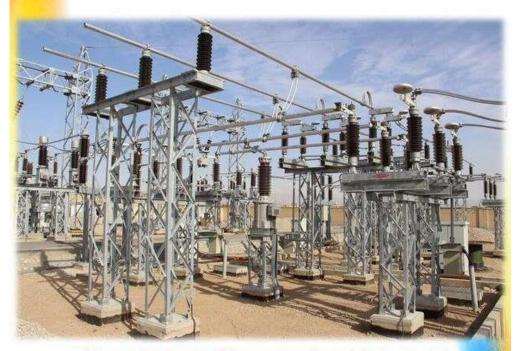
Figure 20. Predicting brain activity using Transformers





انجمن علمي IEEE شاخه شهرضا برگزار ميكند:

«بازدید از پست فشارقوی 67 kV حکیم الهی شهرضا



اولویت با دانشجویان درس حفاظت و رله ها می باشد.



هزینه ثبت نام: ۲۵ هزارتومان زمان برگزاری:

شنبه ۵ خردادماه ۱۴۰۳ ساعت ۱۰:۰۰

🖈 مولت ثبت نام: تا روز روشنبه ا۳ ار دیبهشت ماه ۱۴۰۳

♦ جهت ثبت نام با آیدی روبرو در ارتباط باشید: Siavashm27@

Figure 21. Visit to 63 kV High Voltage Substation in Hakim Elahi Shahreza





Figure 22. Industry Connection Webinar





Figure 23. Open Robots: From Modeling to Control and Applications



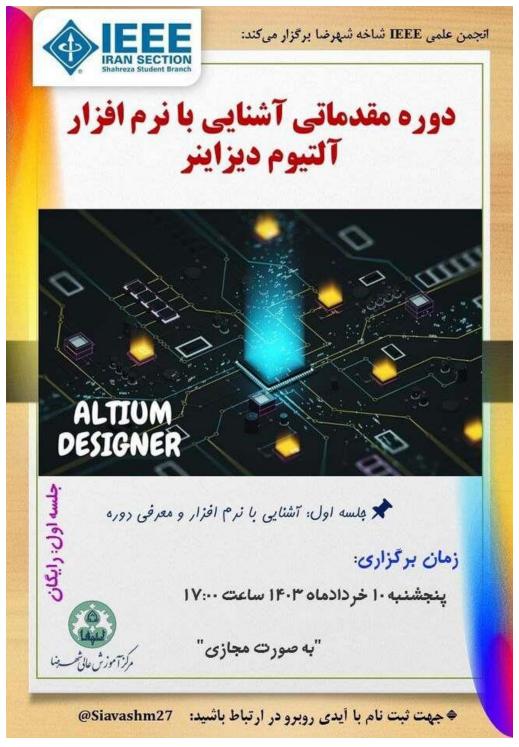


Figure 24. Introductory Course on Altium Designer Software





Figure 25. Elec Tech Cast Podcast: Smart Grid Microgrid - Part 2: Interview





Figure 26. Specialized Session: Advances in Organizational Architecture in the Banking Sector





Figure 27. Specialized Session: Health of Organizational Architecture and Organizational Architecture in the Health System





Figure 28. Specialized Session: Advances in Organizational Architecture in the Telecom Sector





Figure 29. Specialized Session: Critique of Government Administrative Transformation Programs from the Perspective of Organizational Architecture





Figure 30. Application of blockchain platform and smart contract technologies in system development





Figure 31. A Case Study of an Architectural Design Approach in Development Planning: The Health System Architecture Designed in the Integration of the Fifth Development Plan





Figure 32. Working with ChatGPT Skills





Figure 33. Composable Architecture and Its Role in Banking Industry Transformation (Presenting a Case Study Based on BIAN Standard)





Figure 34. Business Process Modeling and Process Mining with ProcessMaker and Celonis Software





Figure 35. Neuroscience and Organizational Architecture





Figure 36. What is Data Governance and Why Do Organizations Need It?





Figure 37. Platform for Integrating Organizational Services





Figure 38. Sustainable Growth with Business Portfolio Management: How Can Companies Move Towards Sustainable Growth Using Architecture with a Balanced Business Portfolio?





Figure 39. What is Architectural Debt and How Should It Be Managed?





Figure 40. The Role of Identity Management in Organizational Architecture





Figure 41. Examining Indicators and Methods for Measuring Service Quality and User Experience Quality in Networks





Figure 42. Regulatory Frameworks and Desirable Governance in Information Infrastructure





A series of scientific meetings of the ICT Research Institute

A Holy Grail Quest: The Concept of Stored Electromagnetic

Energy

Speaker:



► Professor Guy A. E. VANDENBOSCH

Guy A. E. VANDENBOSCH received the M.S. and Ph.D. degrees in Electrical Engineering from the KU Leuven, Belgium, in 1985 and 1991, respectively. Since 1993, he has been a Lecturer, and since 2005, a Full Professor at the same university. His research interests are in the area of electromagnetic theory, computational electromagnetics, planar antennas and circuits, nano-electromagnetics, EM radiation, EMC, and bio-electromagnetics. His work has been published in ca. 425 papers in international journals and has led to ca. 430 papers at international conferences. In the period 1999-2004, he was vice-chairman, in the period 2005-2009 secretary, and in the period 2010-2017 chairman of the IEEE Benelux Chapter on Antennas en Propagation. In the period 2002-2004 he was secretary of the IEEE Benelux Chapter on EMC. In 2023, he received the "Antenna Award", a lifetime achievement award from EurAAP. Guy is a fellow of the IEEE.

Date: November 7, 2023 (16 Aban 1402)

Time: 16:00 - 17:30 Tehran Time (13:30 -15 CET)

ABSTRACT:

In this talk the quest for the "final" expressions for the energy stored in a radiator is overviewed. First, the several forms of power and energy that have been defined and used in electromagnetics over the last 100 years are briefly summarized, and their most important characteristics are discussed. In a first step, frequency domain is considered. Starting from two power balance equations, a field based reactive energy is formally defined and compared to the numerous "definitions" already available in literature. Then the concept of recoverable energy is introduced. The differences with reactive energy are pointed out. Moving to time domain, it is possible to write unifying expressions generalizing the concept of reactive energy. It is shown that recoverable energy is just a special case for a specific current evolving in time. Illustrative examples are given where these energies can be used to solve practical problems. The paper clearly illustrates that the concept of stored electromagnetic energy is still not well-understood when a radiator is involved.



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virtual

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Figure 43. A Holy Grail Quest: The Concept of Stored Electromagnetic Energy





Figure 44. Financial Funding in the Information Infrastructure of the National Information Network





Figure 45. Mutual Services of Data Governance and Data Fabric





Figure 46. The Role of Data Architecture in the Success of Legacy Software System Improvement Projects





Figure 47. Introduction to Foresight Process and Its Tools





Figure 48. Information Infrastructure Requirements of National Information Network





Figure 49. Architecture and Integration Solutions for Data Analysis





Figure 50. Persian Text Analysis in Social Networks





مسابقه دانشجویی اخلاق IEEE بخش ایران

چالشی برای اعضای دانشجویی IEEE

(طرح یک موضوع اخلاقی و تلاش شرکتکنندگان برای یافتن راهحل مناسب)

به کارگیری منشور اخلاق IEEE در چالشها:

- مفاهیم اخلاقی را در مسائل داده شده مورد بحث و تحلیل قرار دهید.
- مفاهیم اخلاقی را در موقعیتهای حرفهای در عرصه عمل بهکارگیرید.
 - 💿 یافتههای خود را برای هیئت داوران عرضه کنید.

Figure 51. IEEE Iran Section Ethics Student Competition



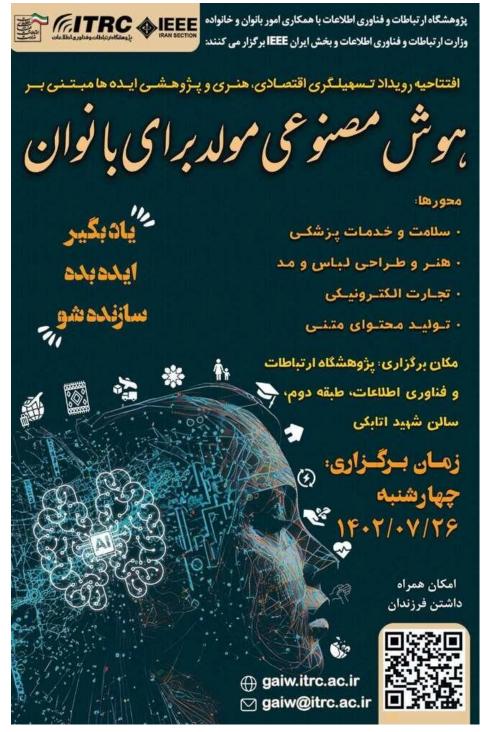


Figure 52. Opening Ceremony of the Economic, Artistic and Research Facilitation Event for Ideas Based on Artificial Intelligence for Women" Organizers





Figure 53. Enhancing Power Grid Resilience Against Wildfire





Figure 54. AI Applications in Modern Power Systems





Figure 55. 6G Wireless Communications: Technologies and Future Perspectives





Figure 56. Educational Advancement & Industry Interaction for Students in Germany





Figure 57. Third episode Elec Tech Cast Podcast: Introduction to Smart and Micro Grids





Figure 58. Scientific Graphs Using MATLAB and MS VISIO





Figure 59. The Challenges of Sustainable Energy Supply in the Era of Energy Transition





Figure 60. First Electrical Energy Podcast Competition





Figure 61. Comprehensive ICDL Training Course





Figure 62. Tea Break Series: A Cup of Hot Tea with the Taste of Relay (First Program)





Figure 63. A Review of Design Optimization Methods in Engineering Concepts





Figure 64. InDesign Software Training Workshop





Figure 65. 10th International Conference on Web Research (ICWR 2024)





Figure 66. Specialized Training Course on Computer Network Concepts - CompTIA Network+





Figure 67. Workshop on Writing Proposals, Theses, Articles and Presentation Skills





Figure 68. Planting for the Future" Organizer: Center for Development of Leadership Technologies, Scientific Deputy and Knowledge-based Economy of the Presidency, in collaboration with the Connectivity and Communication Technologies Development Headquarters





Figure 69. Educational Workshop on FPGA Hardware Description using VHDL Language





شبکه های مولد تخاصمی (Generative Adversarial Networks|GAN) دستهای از سیستمهای یادگیری عمیق محسوب میشوند که توسط ایان گودفلو و همکارانش در سال ۲۰۱۴ ابداع شدهاند. این مدل قادر است که از طریق یک الگوریتم تکرارشونده از روی تعدادی نمونه آموزش اولیه نمونه های جدیدی ایجاد کند. این نمونههای جدید گاهأ چنان به نمونه های واقعی نزدیک هستند که تشخیص جعلی یا واقعی بودن نمونه تولید شده برای انسان نیز دشوار و حتی غیرممکن است. هر شبکه مولد تخاصمی از دو بخش مولد (Generator) و تمیزدهنده (Discriminator) تشکیل میشود. مولد در هر تکرار تلاش میکند تا نمونههایی مشابه مجموعه آموزش اولیه خلق کند و در مقابل تمیزدهنده وظیفهی تشخیص جعلی یا واقعی بودن نمونه را دارد. هدف نهایی کل سیستم پیشرفت مولد در تولید نمونههای جدید از عراد ست تا جایی که تمیزدهنده در تشخیص نمونههای جدید از نمونه های آموزشی به مشکل برخورد کند. استفاده از شبکه مولد تخاصمی در تولید تصاویر بسیار رایج است اما اخیراً مطالعاتی در جهت استفاده از این مدل برای تولید خودکار متن و سیگنال نیز انجام شده است. در این ارائه روشهای تولید خودکار انواع داده (تصویر، سیگنال و متن) بررسی میشوند.



Figure 70. Generative Adversarial Networks and Their Use in Automatic Generation of Various Data Types (Image, Signal, and Text)





Figure 71. "Data Mining Seminar in the Electricity Industry





Figure 72. 2nd IEEE-Iran Section and IGMC General Meeting: Demand Side Management in Modern Power Systems



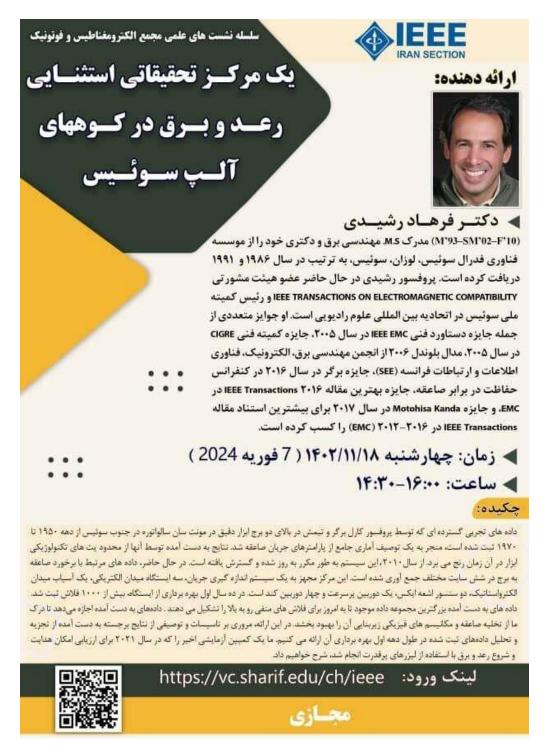


Figure 73. A Research Center for Lightning and Thunder in the Swiss Alps



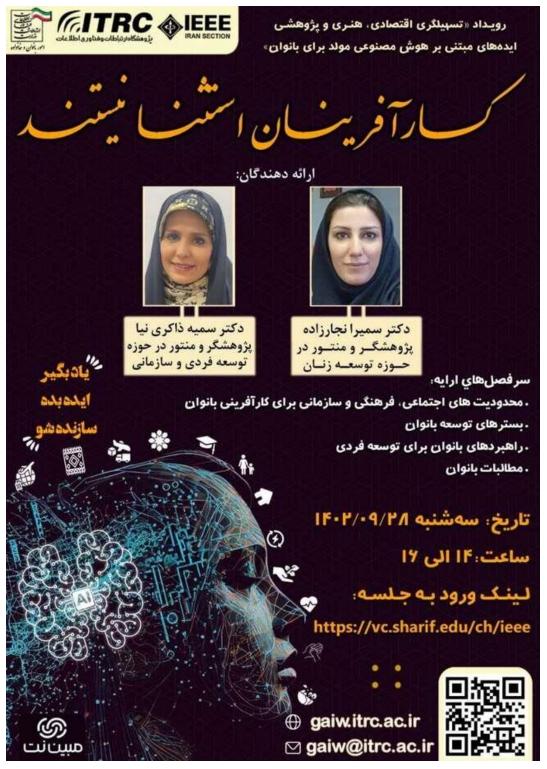


Figure 74. Women Entrepreneurs Productive Artificial Intelligence Ideas for Women





Figure 75. AI: Applications and Challenges with Enterprise Approach





Figure 76. Challenges, Fears and Hopes for Knowledge-Based Companies in the Field of Electricity and Computer in Iran





Figure 77. Introduction, Selection and Orientation in Electrical Engineering for 1400 Entrants



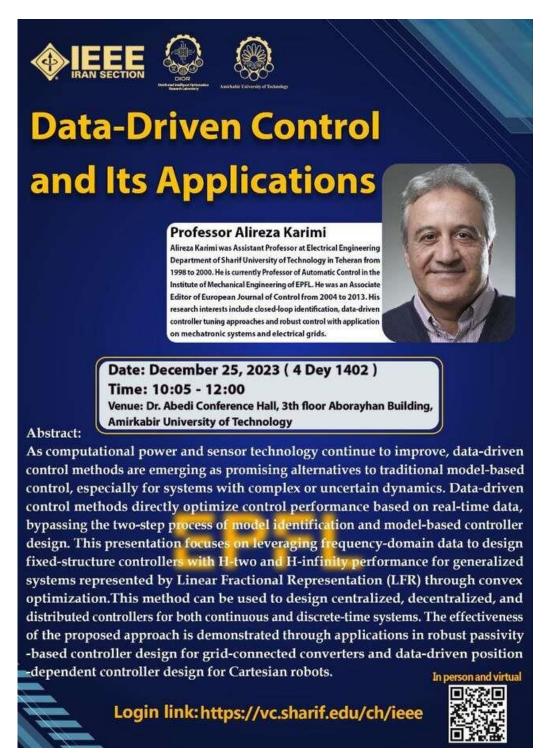


Figure 78. Data-Driven Control and Its Applications





A series of scientific meetings of the ICT Research Institute

Win-Win Strategies:

Speaker:



Leveraging Game Theory and Mechanism Design to **Enhance Multi-agent Systems**

Dr. Farzaneh Farhadi

Dr. Farzaneh Farhadi is an Assistant Professor of Computer Science at Aston University, England, since January 2022. Previously, she held the prestigious position of a Royal Society Fellow at Imperial College London. Her academic journey began at Sharif University of Technology, Iran, where she earned dual degrees in BSc in Electrical Engineering and Mathematics (2010), followed by an MSc in Electrical Engineering (2012), and she successfully completed her PhD in Electrical Engineering in 2018. Her career has spanned various continents, including a role as a Research Fellow at the University of Michigan in Ann Arbor, USA, and more recently, as a Lecturer at the University of Tehran, Iran. Dr. Farhadi's research focuses on multi-agent systems, game theory, incentive mechanism design, and strategic learning.

Date: November 27, 2023 (6 Azar 1402)

Time: 14:00 - 15:30 (IST)

ABSTRACT:

In this presentation, we delve into the exciting world of mechanism design and its pivotal role in enhancing multi-agent systems. Mechanism design, often considered the inverse of game theory, offers a unique perspective on optimizing system outcomes to benefit all stakeholders. We will begin by introducing mechanism design and discussing key concepts within this field. As we progress, we will showcase real-world examples of how the integration of mechanism design and game theory can elevate the performance of multi-agent systems. Through these practical illustrations, we will illustrate how mechanism design empowers us to create win-win scenarios, where the desired outcome becomes mutually advantageous for both system designers and every individual agent within the system. Join us to explore the strategic interplay of these concepts and unlock the potential for achieving harmonious and efficient multi-agent systems.



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Figure 79. Win-Win Strategies: Leveraging Game Theory and Mechanism Design to Enhance Multi-agent Systems





Figure 80. Online Training on Electrical Panel Wiring with ePLAN (Overview of Industrial Automation Equipment)





Figure 81. Comprehensive Online Training on MATLAB Software







Figure 82. Python training course zero to hero





Figure 83. (7+1)-Hour Seminar and Workshop On Challenges Toward Graduate Studies





Figure 84. ICIS 2024: 19th Iranian Conference on Intelligent Systems