

MCE – Conference Organizer Toolkit

IEEE Conference Proceedings: Guide to Scope and Quality Criteria

Scope:

- Each paper must fit within the stated scope of the conference. For instance, if the scope of the conference is wireless technology, a paper on magnetic disk drives would be outside the technical scope of the conference (unless wireless technology was an important aspect of the disk drive).
- The paper must also be within the scope of Electrical Engineering (EE) and Computer Science and closely-related areas, and more specifically, within one of more of the following 16 topical areas that reflect how individual articles are indexed in IEEE *Xplore*[®]:
 - **Aerospace**
 - **Bioengineering**
 - **Communication, Networking & Broadcasting**
 - **Components, Circuits, Devices & Systems**
 - **Computing & Processing (Hardware/Software)**
 - **Engineered Materials, Dielectrics & Plasmas**
 - **Engineering Profession**
 - **Fields, Waves & Electromagnetics**
 - **General Topics for Engineers (Math, Science & Engineering)**
 - **Geoscience**
 - **Nuclear Engineering**
 - **Photonics & Electro-Optics**
 - **Power, Energy, & Industry Applications**
 - **Robotics & Control Systems**
 - **Signal Processing & Analysis**
 - **Transportation**

TIP! - A helpful question to ask when evaluating papers is, “Could this paper be given as a seminar in the Electrical Engineering or Computer Science department of a good university?”

If the answer is “**No**”, the paper is unlikely to be considered to be within scope.

Further detailed information about appropriate technical scope, as defined in the descriptions of our technical societies’ areas of interest, is available:

http://www.ieee.org/membership_services/membership/societies/index.html.

- Some papers in fields that have some overlap with EE and Computer Science, such as other branches of engineering, physical science, life science, or applied mathematics, are considered to be within scope, but *only* when the paper includes significant portions that are relevant to EE and Computer Science.

For example, a paper on using an off-the-shelf CAD program to design a mechanical component would not be considered to be within scope, as there are no advances within the field of EE and Computer Science.



However, if the complexity of the design required modifications of the CAD software to allow it to complete in a finite amount of time, then a paper describing these modifications and the resulting gains in computational speed would be considered to be within scope.

A paper describing the design of a new instrument for medical imaging is likely to be within scope, while a paper tabulating the fraction of the population that suffers from a disease is detected with this instrument is unlikely to be within scope.

- It can be difficult to determine whether papers describing the development of simulations or algorithms are within scope, as the processes that these algorithms attempt to model often are not related to EE and Computer Science. The main test for these papers is whether the manuscript embodies a substantial amount of the tools, techniques, and methods employed in EE and Computer Science, and use these tools, techniques, and methods at a non-trivial level.

For example, a paper that uses control theory to optimize the performance of a chemical manufacturing plant would be considered within scope, especially if it concentrated on the mathematical model of the plant, the methods used for optimization, and gave comparisons to previous methods used to control the plant. A paper that compared how quickly the chemical processing completed as a function of temperature is not likely to be considered within scope, as its use of these techniques is trivial at best.

- Papers on **non-technical topics such as tourism, philosophy, art, architecture, agriculture, economics, finance**, etc. are virtually never considered to be within scope.

Good Written Quality:

- The obvious criterion is that the paper is easily readable - written in understandable technical English and is relatively free from grammatical and spelling errors.
- In addition, the manuscript should contain most (if not all) of the elements found in scientific papers:
 1. An introductory statement of the purpose of the paper, usually describing the hypothesis that will be tested and a summary of related previous work by others.
 2. Methods used to test the hypothesis should be given in sufficient detail that another researcher in the field could duplicate the testing.
 3. The hypothesis should be tested and data representing the results of the testing presented.
 4. A discussion of data and the results interpreted, with conclusions given.

If you have any questions or need consultation on any conference technical program or quality topic, please contact the IEEE Conference Quality team:

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