IISWC'24 CALL FOR PAPERS

IISWC invites manuscripts that present original unpublished research in all areas related to the characterization and analysis of computing system workloads, including translational research related to production-oriented commercial systems. Work focusing on emerging technologies and interdisciplinary work are especially welcome. Topics of interest include (but are not limited to) characterization of applications in traditional and emerging domains, characterization of system software and middleware, implications of workloads in system design, benchmarking methodologies and suites, and tools for computer systems. A detailed list of the topics can be found at the end of this CFP.

Deadlines

Submission Deadline : ~~May 29, 2024~~ June 3, 2024
Decision Notification : July 16, 2024
Camera-ready Deadline : August 9, 2024

Submission Guidelines

Submissions to IISWC can be made in one of the following two categories: (1) regular papers and (2) tool and benchmark papers. The primary focus of *regular papers* (submission length: 10 pages, excluding references) should be to describe new research ideas supported by experimental implementation and evaluation of the proposed research ideas. The primary focus of *tool and benchmark papers* should be to describe the design, development, and evaluation of new open-source tools and benchmarks suites. Submissions in the *regular papers* category are also encouraged to open-source their software or hardware artifacts.

The authors are required to indicate the category of the paper as a part of the submitted manuscript's title. On the submission system entry, we ask the authors to add a prefix to the title indicating the type of the submission as follows: 1. regular papers: "Regular-TITLE" and 2. tool and benchmark papers: "Tools-TITLE".

Papers in the tool and benchmark category with relatively shorter length (6 pages) are welcome if the contributions can be well articulated and substantiated. However, all submissions in the tool and benchmark category have the flexibility of using all 10 pages (excluding references).

The submissions in both categories will be evaluated to the same standards in terms of novelty, scientific value, demonstrated usefulness, and potential impact to the field. The nature of the contribution differs between the two categories (new research idea vs. new open-source benchmark-suite / tool) and papers will be evaluated based on the intended nature of the contribution, as declared by the chosen paper category at the time of the submission. The chosen category at the time of the submission cannot be changed after the submission deadline.

Double-blind submission guidelines apply to the submissions in both categories.

Open-source benchmarks and tools that have not been previously published (but may have been open-sourced) are eligible for submission in the *tool and benchmark papers* category.

When including source code links in their submission, we require the authors to use new or anonymized code repositories to preserve the integrity of double-blind review process. All submitted papers should have obtained legal permission (if applicable) to open-source the benchmark-suite / tool at the time of submission.

Topics of Interest

Characterization of applications in domains including

- Life sciences, bioinformatics, scientific computing, finance, forecasting
- Machine learning, data analytics, data mining
- Cyber-physical systems, pervasive computation, and Internet of Things (IoT)
- Security and privacy-preserving computing
- High performance computing
- Cloud and edge computing
- Mobile computing
- User behavior and system-user interaction
- Search engines, e-commerce, web services, and databases
- Embedded, multimedia, real-time, 3D-graphics, gaming
- Blockchain services
- Augmented reality and virtual reality

Characterization of workloads for emerging workloads and architectures, such as

- Quantum computations and communication
- Serverless computing
- Near-threshold computing
- Non-volatile memory
- Near data processing architectures
- Neuromorphic and brain-inspired computing
- Transactional memory systems
- Biology (e.g., DNA sequencing) and chemistry workloads

Characterization of OS, Virtual Machine, middleware and library behavior, including

- Virtual machines, .NET, Java VM, databases
- Graphics libraries, scientific libraries
- Operating system and hypervisor effects and overheads

Implications of workloads in system design, such as

- Power management, reliability, security, privacy, performance
- Processors, memory hierarchy, I/O, and networks
- Design of accelerators, FPGAs, GPUs, CGRAs, etc.
- Large-scale computing infrastructures and facilities

Benchmark methodologies and suites, including

- Representative benchmarks for emerging workloads
- Benchmark cloning methods
- Profiling, trace collection, synthetic traces
- Validation of benchmarks

Measurement tools and techniques, including

- Instrumentation methodologies for workload verification and characterization
- Techniques for accurate analysis/measurement of production systems
- Analytical and abstract modeling of program behavior and systems