2020 IEEE International Symposium on Workload Characterization (IISWC)

IISWC invites manuscripts that present original unpublished research in all areas related to characterization and analysis of computing system workloads, including translational research related to production-oriented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.

Due to the COVID-19, IISWC-2020 will be going virtually. More details can be found via: http://www.iiswc.org/iiswc2020/index.html

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Deadlines:

Submission Deadline: July 10, 2020
Decision Notification: Aug 24, 2020
Camera-ready deadline: Sep 15, 2020

New in 2020:

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

Submission guidelines and evaluation criterion:

The authors are required to indicate the category of the paper as a part of the submitted manuscript's title. The last line of the title should indicate the paper type by using one of the two phrases **(1) Paper Type: Regular, or (2) Paper Type: Tool/Benchmark.**

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

The submissions in both categories will be evaluated to the same standards in terms of novelty, scientific value, demonstrated usefulness, and potential impact on 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 can not 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. Even in cases where the benchmarks suite/tool is already being used in the community, the authors should demonstrate a good faith effort to adhere to the double-blind submission guidelines. All submitted papers should have obtained legal permission (if applicable) to open-source the benchmark-suite / tool at the time of submission.

Refer to the paper submission instructions on the IISWC website for more detailed submission guidelines.

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
Quantum 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

***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
Artificial intelligence and transactional memory 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

General Chairs
Lei Liu and Lixin Zhang (ICT, CAS)
Program Chairs
David Kaeli and Devesh Tiwari (Northeastern University)