

# CPSAT 2024

October 16-17

Institute for Research in Fundamental Sciences (IPM)  
School of Computer Science

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**Workshop Co-chair:** Dr. Mahmood Shirazi (Institute for Advanced Studies in Basic Sciences (IASBS))

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**Executive Chair and Local Arrangement:** Hamid Reza Shahrabi (IPM)

**Secretary:** Yousef Mehrabani (IPM)



## CALL FOR PAPERS

The 2024 International Symposium on Cyber-Physical Systems (Applications and Theory) (CPSAT 2024), aims at bringing researchers in the fields of Cyber-Physical Systems (CPS), embedded and real-time systems, Internet-of-Things (IoT), and related research areas, from both industry and academia. This event was held nationally from 1995 to 2014. Starting from 2015 (visit <http://cpssi.ir/rtest>) CPSAT (formerly RTEST) became a successful international symposium. CPSAT 2024 will be held on October 16-17, at Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.

**PLEASE NOTE:** Only original papers that have not been published or submitted for publication elsewhere will be considered. Prospective authors are invited to submit technical papers of their previously unpublished work. Submissions may include all theoretical and application-oriented areas, reporting modeling, design, analysis, implementation, evaluation and empirical experiments related to CPS, embedded systems, real-time systems, and IoT, including (but not limited to) the following tracks:

### Track A: CPS Design and Analysis

#### Design, Implementation and Analysis of Digital Systems in CPS

Hardware architectures, memory hierarchies, FPGAs, CPU/GPUs and AI accelerators

System-level design, design space exploration, synthesis, co-design techniques

Human-machine interactions, sensors and actuators

Foundations of CPS/IoT, design models, simulation/emulation for CPS/IoT

Emerging embedded systems

#### Embedded Software/Hardware

Embedded and real-time operating systems

Hypervisors and runtime frameworks

Specification languages, requirements, compilers and tools

Middleware and firmware, Bioinformatic embedded applications

Autonomous computing in CPS

#### Optimization, Control and Resource Planning in CPS

WCET analysis

Scheduling and resource allocation

Energy and temperature management

System-level optimization and control

Performance analysis of CPS/IoT

### Track B: Distributed/Dependable CPS

#### Communications and Protocols in CPS

CPS/IoT communications, infrastructure and network applications

Networked/distributed real-time/embedded systems, sensor networks

Mobile CPS applications, connected vehicles

Time-sensitive applications and networks

Cloud, edge, and fog computing

Blockchain, consensus algorithms in CPS

#### Verification and Validation of CPS

Safety and resilience in CPS/IoT

Dependable CPS design

Cyber security, privacy and trust in CPS, encryption/decryption techniques

#### CPS Applications and Frameworks

CPS/IoT applications in power and control systems, grid computing

Advanced Metering Infrastructures (AMI) and benchmarking

Software platforms, simulators, and emulators for CPS/IoT

Intelligent transportation, energy, healthcare, aerospace, smart city and smart grid

Industry 4.0, digitalization, industry best practices

### Track C: Artificial Intelligence in CPS

#### AI Applications in CPS

Theory/Applications of machine learning, real-time AI, NLP, explainable AI,

neuromorphic computing, evolutionary computing in CPS

#### CPS for Smart Processing

Application of CPS in computer vision and image understanding, hybrid

intelligent systems, knowledge-based systems, knowledge representation,

robotics and automation



### Important Dates:

#### Full Paper Submission:

June 20th, 2024

#### Author Notification:

August 23th, 2024

#### Camera-Ready:

September 6th, 2024

Scan for more info



Cyber-Physical  
Systems Society of Iran



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