AIMLSystems 2022
The 2nd International Conference on AI-MLSystems
An Initiative of the COMSNETS Association
October 12-15, 2022
The Chancery Pavilion, Residency Road, Bangalore, India | Hybrid Conference

Conference Website: https://www.aimlsystems.org/2022/

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CALL FOR PARTICIPATION

AIMLSystems is a new conference targeting research at the intersection of AI/ML techniques and systems engineering. Through this conference we plan to bring out and highlight the natural connections between these two fields and their application to socio-economic systems. Specifically we explore how immense strides in AI/ML techniques are made possible through computational systems research (e.g., improvements in CPU/GPU architectures, data-intensive infrastructure, and communications), how the use of AI/ML can help in the continuous and workload-driven design space exploration of computational systems (e.g., self-tuning databases, learning compiler optimisers, and learnable network systems), and the use of AI/ML in the design of socio-economic systems such as public healthcare, and security. The goal is to bring together these diverse communities and elicit connections between them.

Contributions are invited under Research, Industry & Applications, and Demonstration Tracks of the conference. Authors are encouraged to submit previously unpublished research at the intersection of computational / socio-economic systems and AI/ML.

TOPICS OF INTEREST

1. **Systems for AI/ML:**
   - CPU/GPU architectures for AI/ML
   - Specialised/Embedded hardware for AI/ML workloads
   - Data intensive systems for efficient and distributed training
   - Challenges in production deployment of ML systems
   - ML programming models, languages, and abstractions
   - ML compilers and runtime
   - Efficient systems for data preparation and processing
   - Systems for visualisation of data, models, and predictions
   - Testing, debugging, and monitoring of ML applications
   - Cloud-computing for machine and deep learning
   - Machine and deep learning "as-a-service"
   - Efficient model training, optimisation and inference
   - Tiny Machine Learning
   - Embedded and Edge Artificial Intelligence
   - Distributed and parallel learning algorithms
   - MLOps (data collection, monitoring and re-training)

2. **AI/ML for Systems:**
   - AI/ML for VLSI and architecture design
   - AI/ML in compiler optimisation
   - AI/ML in data management - including database optimisations, virtualisation, etc.
   - AI/ML for networks - design of networks, load modelling, etc.
   - AI/ML for power management - green computing, power models, etc.
   - AI/ML for Cloud Computing; AI/ML for IOT networks

3. **AI/ML for Socio-Economic Systems Design:**
   - Computational design and analysis of socio-economic systems
   - Fair and bias-free systems for social welfare, business platforms
   - Applications of AI/ML in the design, short-/long-term analysis of cyber-physical systems
   - Mechanism design for socio-economic systems
   - Fairness, interpretability and explainability for ML applications
   - Privacy and security in AI/ML systems
   - Sustainability in AI/ML systems
   - Ethics in AI/ML systems
   - Applications of AI/ML in financial systems

CONFERENCE HIGHLIGHTS

- Keynote/Invited Talks
- Technical Paper Sessions
- Industry Track Session
- Panel Discussions
- Demos & Exhibits
- Doctoral Symposium
- Tutorials

KEYNOTE SPEAKERS

Carlos Guestrin
Stanford University, USA

Nikko Strom
Amazon, USA

Cynthia Rudin,
Duke University, USA

Partha Pratim Talukdar
IISc Bangalore & Google Research,

Max Welling
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