

## CLOUD INTELLIGENCE / AIOPS

## WHAT WE'RE DOING

This workshop provides a forum for researchers and practitioners to present the state of research and practice in AI/ML for efficient and manageable cloud services, and network with colleagues.

# CLOUD INTELLIGENCE AIOPS

## TOPICS

- Resource scheduling and optimization
- Predictive capacity management
- Resource allocation and packing
- Service quality monitoring and anomaly detection
- Deployment and integration testing
- System configuration
- Hardware/software failure prediction
- Auto-diagnosis and problem localization
- Efficient ML training and Inferencing
- Using LLMs for Cloud Ops
- Incident management
- Auto service healing
- Data center management
- Customer support
- Security and Privacy in Cloud Operations

### Cloud Efficiency

Optimal scaling, scheduling and packing to reduce the overall cost and carbon footprint

### Resilient Cloud Services

Built-in capabilities of self-healing, monitoring, and diagnosis

### AI Efficiency

Increased adoption and long-term sustainability

### Intelligent Ops

Easily use, maintain, and troubleshoot workloads



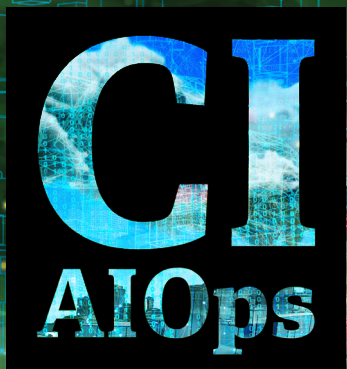
[cloudintelligenceworkshop.org](https://cloudintelligenceworkshop.org)



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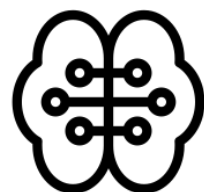
## OVERVIEW

This workshop provides a forum for researchers and practitioners to present the state of research and practice in AI/ML for efficient and manageable cloud services, and network with colleagues.



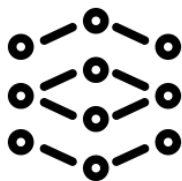
### EFFICIENCY

Optimal scaling, scheduling and packing to reduce the overall cost and carbon footprint.



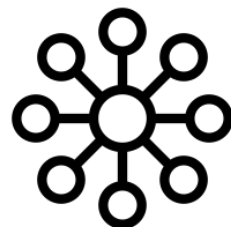
### INTELLIGENCE

Easily use, maintain, and troubleshoot workloads.



### RESILIENCE

Built-in capabilities of self-healing, monitoring, and diagnosis.



### EFFECTIVENESS

Increased adoption and long-term sustainability.

## TOPICS

We are still at an early stage towards realizing this vision. We advocate the urgency of driving and accelerating AI/ML for efficient and manageable cloud services through collaborative efforts in multiple areas, including but not limited to artificial intelligence, machine learning, software engineering, data analytics, and systems.



RESOURCE SCHEDULING AND OPTIMIZATION



PREDICTIVE CAPACITY MANAGEMENT



RESOURCE ALLOCATION AND PACKING



SERVICE QUALITY MONITORING AND ANOMALY DETECTION



DEPLOYMENT AND INTEGRATION TESTING



SYSTEM CONFIGURATION



HARDWARE/SOFTWARE FAILURE PREDICTION



AUTO-DIAGNOSIS AND PROBLEM LOCALIZATION



EFFICIENT ML TRAINING AND INFERENCE



USING LLMS FOR CLOUD OPS



INCIDENT MANAGEMENT



AUTO SERVICE HEALING



DATA CENTER MANAGEMENT



CUSTOMER SUPPORT



SECURITY AND PRIVACY IN CLOUD OPERATIONS

**DIGITAL TRANSFORMATION  
IS HAPPENING  
IN ALL INDUSTRIES**