

**AMD Tutorial @ ICPP 2026****Title****Accelerating AI and HPC Workflows with AMD ROCm AI and Modern GPU Clusters**

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**Presenters**

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**Abstract**

This tutorial introduces AMD's latest AI and HPC ecosystem, focusing on ROCm AI, large-scale GPU cluster deployment, and practical experiences from real-world AI/HPC systems.

Participants will learn how to develop, optimize, and deploy AI and HPC workloads on AMD Instinct GPUs using the ROCm software stack.

The tutorial combines technical presentations with hands-on demonstrations and best practices from production cluster environments.

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**Target Audience**

- Researchers
  - HPC practitioners
  - AI engineers
  - Graduate students
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**Learning Objectives**

After the tutorial, participants will be able to:

- AMD Research opportunities
  - Understand the ROCm software ecosystem
  - Run workloads on AMD GPUs in agentic way
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**Agenda (Half-Day, ~3 hours)****Session 1: AMD AI & HPC Ecosystem (45 min)**

- Introduce to AMD University Program
- Introduce to AMD AI & HPC Cluster Program

**Session 2: ROCm.AI (45 min)**

- Overview of ROCm.AI
- ROCm.AI Quick Demo

**Break-time (10min)****Session 3: AMD Research sharing (60 min)**

- AI in DC
- Physical AI

**Session 4: Experience Sharing (30min)**

- Mars Computing (@Prof. He, 15min)