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Vellore Institute of Technology, Vellore
Centre For Artificial Intelligence Research (C-FAIR)

ONE-DAY WORKSHOP ON

Accelerated Computing with NVIDIA CUDA

DATE	TIME	Mode
23 JANUARY 2027	09:30 AM – 5:30 PM	OFFLINE HANDS-ON

ABOUT THE WORKSHOP

This hands-on workshop introduces participants to NVIDIA CUDA, a parallel computing platform and programming model for leveraging GPU power. Participants will learn how GPU computing works, develop fundamental CUDA programs, and explore techniques for accelerating computationally intensive AI and machine learning workloads. The workshop emphasizes practical programming, parallel execution, memory management, and performance optimization.

WHAT YOU WILL LEARN

01 GPU Computing Fundamentals
CPU vs. GPU architectures, parallelism, and the CUDA programming model.

02 Hands-on CUDA Programming
Develop CUDA C/C++ programs using kernels, threads, blocks, and grids.

03 GPU Memory and Execution
Explore memory hierarchy, data transfers, and efficient GPU execution.

04 Performance Optimization
Compare CPU and GPU execution and learn introductory optimization techniques.

05 AI/ML Acceleration
Understand GPU computing for deep learning, data-intensive workloads, and scientific computing.

06 Practical Challenge
Apply what you learn in a closing hands-on challenge, followed by discussion and wrap-up.

WHO SHOULD ATTEND?

- Undergraduate and postgraduate students and research scholars with basic programming knowledge in C/C++.

Interested in accelerated computing and AI/ML application development. Please bring a laptop with Wi-Fi.

EXPECTED OUTCOMES

- Understand GPU architecture and why parallelism speeds up AI/ML.
- Write and run CUDA C/C++ programs using kernels, threads and blocks.
- Benchmark CPU vs. GPU code and apply basic optimizations.

REGISTRATION

₹500
(including 18% GST)

REGISTER NOW
Scan the QR code or visit:
https://events.vit.ac.in/
Limited seats available.

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Empowering the next generation of GPU computing and AI innovators.