



**Indian Institute of Information Technology Sri City**  
**Department of Computer Science and Engineering**  
**5-days WORKSHOP**  
**ON**  
**HPC Synergy: Elevating AI with High-Performance Parallel Computing**  
**July 22 - 26, 2024**

		<b>Tentative schedule</b>			
<b>Day</b>	<b>Topics</b>	<b>9:45 to 11:15</b>	<b>11:30 to 1:00PM</b>	<b>2:15 to 3:45</b>	<b>4:00 to 5:30</b>
Day 1 - Monday 22nd July	Understanding of HPC Technologies	Registration and Inauguration and Keynote Speaker	Overview of HPC and Its Importance	Scale AI: Breaking the Compute-Memory Wall for AI Computation	High-Performance in AI/ML: Issues, Trends, and Challenges
Speaker		Dr. Annushree B	Dr Rupesh	Dr Sahoo	Prof Panda
Day 2 - Tuesday 23rd July	Utilization of Modern HPC Technologies	Overview of Parallelization Techniques on GPU	Shared Memory Programming and Distributed Memory Programming	Introduction to CUDA, Cuda/MPI, GPU Acceleration, and Overview of GPUs for Parallel Processing	Hands-on Session 2: Parallelizing Algorithms with OpenMP, MPI, and CUDA
Speaker		Dr Satish Puri	Dr. Preeti Malakar	Dr. Bheemappa	Dr. Bheemappa
Day 3 - Wednesday 24th July	ML Performance Optimization and Understanding of HPC Technologies	Overview of AI/ML Frameworks	ML Performance Optimization	Advances in Deep Learning and Computer Vision	Hands-on Session: Implementation of DL Models on CPU and GPU Use Cases
Speaker		Dr. Ramalingaswamy Cheruku	Dr Damodar Reddy Edla	Dr. Abhijeet Borgule	Dr Rakesh Kumar:
Day 4 - Thursday 25th July	Overview of Parallelization Techniques on CPU/GPU	An Overview of Parallelization Strategies for Shared Memory-based Multi/Many-core Systems	TBA	Llama.lisp: Design of an AI-First Compiler Framework	Setting up HPC Environments for AI/ML Acceleration. Hands-on Exercises for GPU
Speaker		Dr. Dip Sankar Banerjee	Dr Subramoni Hari	Mr Sansank Chilamkurthy	Dr. Bheemappa
Day 5 - Friday 26th July	HPC Technologies in Real-World Scenarios	Future Trends in HPC in AI and ML	Autonomous Vehicle Algorithms Acceleration using FPGAs	Graphs and HPC	Valedictory and Certificate Distribution
Speaker		Dr Bharath Ramesh	Dr Basavaraj Talawar	Prof Kishore Kothapalli	Dr Annushree B

LUNCH