

ABOUT CBIT

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, established in the Year 1979, esteemed as the Premier Engineering Institute in the States of Telangana and Andhra Pradesh, was promoted by a Group of Visionaries from varied Professions of Engineering, Medical, Legal and Management, with an Objective to facilitate the Best Engineering and Management Education to the Students and contribute towards meeting the need of Skilled and Technically conversant Engineers and Management Professionals, for the Country that embarked on an Economic Growth Plan. The college offers 11 UG and 10 PG Programmes. The Institute has become Autonomous under UGC w.e.f. 2013-14. UG Programmes are accredited by NBA in the year 1998, 2004, 2008, 2013, 2017, 2022 and Five PG Programmes have been accredited by NBA in 2020. The Institute is accredited by NAAC with CGPA of 3.59 on a four point scale at ‘A++’ grade in 2023 for five years. CBIT is ranked in the rank band 150-200 in Engineering Category under National Institutional Ranking Framework (NIRF), Govt. of India, MHRD. The College Campus is spread across 50 acres.

ABOUT IT

The Department of Information Technology started the BE (IT) program in the academic year 2000-01 with an intake of 60 students. The intake increased to 120 from the academic year 2015-16, and further to 180 from 2018-19. The department has also been offering a PG program, M.Tech with specialization in Artificial Intelligence and Robotics, starting from the academic year 2024-25. The undergraduate program has been accredited five times by the National Board of Accreditation (NBA) in 2008, 2012, 2017, 2022, and 2024. The department is well-equipped with state-of-the-art labs and classrooms to facilitate effective teaching and learning in alignment with NEP-2020. The department has well-experienced and qualified faculty members, with 70% holding doctorates, and continues to conduct quality research in areas such as Deep Learning, NLP, Computer Vision, Cyber Security, IoT, Drones, High Performance Computing, Quantum Computing, etc.

ABOUT FDP

The ATAL Online Faculty Development Program (FDP) on “**High Performance Computing for Data-Intensive and Complex AI Applications**” aims to provide participants with comprehensive knowledge of High Performance Computing (HPC) and its applications in handling large-scale data and complex AI tasks. This six-day program covers essential HPC concepts, parallel computing models, and architectures, while introducing programming tools like OpenMP, MPI, and CUDA for effective parallel programming. Participants will gain hands-on experience with GPU-based frameworks for deep learning, covering topics such as optimization techniques, system management, and security aspects of HPC. The FDP is designed for faculty members, industry professionals, and researchers, offering both theoretical insights and practical skills to strengthen their expertise. By the end, attendees will be prepared to leverage HPC techniques in real-world applications, enhancing research capabilities and readiness for industry roles that demand advanced computational skills. Additionally, the program encourages networking and collaboration, fostering connections for future research in HPC and AI.

OBJECTIVES

The FDP aims to equip participants with essential knowledge of HPC, covering both foundational and advanced aspects. Key objectives include understanding HPC architectures, parallel computing models, and tools like OpenMP, MPI, and CUDA. The program offers hands-on sessions on GPU-based deep learning frameworks and focuses on optimization, system management, and security, preparing participants for data-intensive tasks in AI and data science.

OUTCOMES

The FDP will equip participants with essential HPC skills, enabling them to tackle large-scale data and AI challenges. Through hands-on sessions, attendees will gain practical experience with tools like OpenMP, MPI, and CUDA, preparing them for advanced research and industry roles.



ONLINE ATAL FDP

on

High Performance Computing for Data Intensive and Complex AI Applications

(ATAL FDP ID: 1730801836)

2nd to 7th December, 2024



Organized by

Department of IT

Chaitanya Bharathi Institute of Technology (Autonomous)

Affiliated to Osmania University,
Accredited by NBA, NAAC A++ Grade,
Kokapet (V), Gandipet (M), Hyderabad-75,
Telangana State, India.

www.cbit.ac.in

CHIEF PATRON

Sri. N. Subash

President, CBIT (Autonomous)

PATRON

Prof. C. V. Narasimhulu

Principal, CBIT (Autonomous)

CONVENOR

Prof. M Venugopala Chari

Prof. & I/C. Head of Dept. of IT, CBIT (Autonomous)

FDP COORDINATOR

Prof. Ramakrishna Kolikipogu

Professor of IT, Head, CHNMS, CBIT (Autonomous)

FDP CO-COORDINATOR

Dr T Satyanarayana Murthy

Associate Professor of IT, CBIT (Autonomous)

ADVISORY COMMITTEE

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Dr. N. L. N. Reddy, Advisor – CDC

Prof A D Sarma, Advisor, R&E

Prof P Sreenivasa Sarma, Advisor, C/o-Infrastructure

ORGANING COMMITTEE (IT DEPT)

Prof N Ramadevi, **Dr. R. M. Krishna Sureddi**,

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Dr. Pragati Priyadarshinee,

Mr. Vaskula Srikanth

COMPUTER OPERATOR: Mr G Kotibabu, CHNMS

FDP TOPICS

- Introduction to HPC and Applications.
- HPC Systems Installation, Setup, Slurm.
- Parallel Programming with OpenMP.
- Parallel Computing Models and Architectures.
- MPI for Distributed Computing.
- GPU-based Deep Learning and HPC Frameworks.
- Optimization Techniques and Workflow Management
- CUDA Programming for HPC.
- System Management and Security in HPC.
- Emerging Trends in HPC for AI.
- OpenACC Programming.
- Research Trends in Data Intensive and Complex AI Applications.

RESOURCE PERSONS

Resource Persons are from Industry, CDAC, IITs, NITs and Academia.

NO REGISTRATION FEE

PARTICIPANTS (NATIONAL & INTERNATIONAL)

- Faculty Members
- Research Scholars
- Industry Professionals
- P.G Students from AICTE approved Institutions

REGISTRATION: Online Through ATAL Portal

<https://atalacademy.aicte-india.org/login>

TEST AND CERTIFICATE

- An assessment test shall be conducted in online mode (May be through ATAL Portal) during the last session at the end of the FDP.
- Minimum 60% score is required to get Certificate
- Session wise attendance shall be recorded.
- Minimum 80% attendance is required to get Certificate.

SESSIONS & MATERIALS

- All the sessions shall be conducted in online mode and records will be uploaded in ATAL Portal.
- Recordings, PPTs and Reference Material shall be provided as per ATAL FDP guidelines.

CONTACT US:

FDP COORDINATOR

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ATAL Online 6 Day Faculty Development Programmes 2024-25 Schedule

FDP Thrust Area

: **High Performance Computing**

FDP Title

: **“High Performance Computing for Data Intensive and Complex AI Applications”, ATAL FDP ID: 1730801836**

Start Date: 02-12-2024

End Date: 07-12-2024

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6		
<p>6:00PM to 6:30PM</p> <p>Inaugural Session Chief Guest Ashish Kuvelkar Scientist G, Senior Director (HPC Technologies), CDAC, Pune</p>	<p>6:00PM to 7:30PM</p> <p>Session 3 Topic: Introduction to OpenMP (Installation, Setup, Slurm, OpenMP Basics) Name of the Expert: Dr. Rajesh Doriya Designation & Organization: Asst.Professor, Dept of IT, National Institute of Technology(NIT), Raipur Years of Exp:13.5</p>	<p>6:00PM to 7:30PM</p> <p>Session 5 Topic: Parallel Computing Models and Architectures (Theory) Name of the Expert: Dr. Vamsi (Sabbi) Krishna Designation & Organization: HPC Application Expert, CDAC , Pune Years of Exp:20</p>	<p>6:00PM to 7:30PM</p> <p>Session 7 Topic: Parallel Programming with MPI (Hands on Session) Name of the Expert: Dr. Lokendra Singh Umrao Designation&Organization: Assoc.Professor of CSE, Dr. Rammanohar Lohia Avadh University Ayodhya Years of Exp:15</p>	<p>6:00PM to 7:30PM</p> <p>Session 9 Topic: Research Paper Discussion on HPC - Parallel Computing (Theory/Demo) Name of the Expert: Dr. Lov kumar Designation & Organization: Asst Prof (Gr-1), Computer Engineering, NIT Kurukshetra, HPC Master Trainer Years of Exp:17</p>	<p>2:00PM to 3:30PM</p> <p>Session 11 Topic: Optimization, Algorithms, and Workflows (Theory&Handson) Name of the Expert: Om Jadhav Designation&Organization: Scientist C, CDAC Pune Years of Exp:20</p>		
<p>6:30PM to 8:00PM</p> <p>Session 1 Topic: Introduction to HPC & Applications (Theory) Name of the Expert: Ashish Kuvelkar Designation & Organization: Scientist G, CDAC Pune Years of Exp:30</p>	<p>7:30PM to 9:00PM</p> <p>Session 4 Topic: OpenMP for Parallel Programming (Hands on Session) Name of the Expert: Prof. Devi Mahalakshmi Designation & Organization: Professor, Mepco Schlenk Engineering College Sivakasi, Tamil Nadu, HPC Master Trainer Years of Exp:28</p>	<p>7:30PM to 9:00PM</p> <p>Session 6 Topic: Parallel Programming with MPI (Theory) Name of the Expert: Om Jadhav Designation&Organization: Scientist C, CDAC Pune Years of Exp:20</p>	<p>7:30PM to 9:00PM</p> <p>Session 8 Topic: AI and Machine Learning, Deep Learning with HPC & Frameworks Name of the Expert: Dr. Raghavendra Kune Designation&Organization: Scientist ‘SG’, Head, High Performance Computing and Drones, ADRIN, ISRO Years of Exp:15</p>	<p>7:30PM to 9:00PM</p> <p>Session 10 Topic: OpenACC Programming (Theory & Hands on Session) Name of the Expert: Prof. Devi Mahalakshmi Designation & Organization: Professor, Mepco Schlenk Engineering College Sivakasi, Tamil Nadu, HPC Master Trainer Years of Exp:28</p>	<p>3:30PM to 5:00PM</p> <p>Session 12 Topic: Algorithm Optimization on HPC - CUDA Programming (Hands on Sessions) Name of the Expert: Dr. Vamsi (Sabbi) Designation&Organization: HPC Application Expert, CDAC , Pune Years of Exp:21</p>		
<p>8:00PM to 9:30PM</p> <p>Session 2 Topic: Reinventing High Performance Computing: Challenges and Opportunities Mr.Raghunandan Mathur Designation & Organization: Senior Project Manager, NEC Corporation, Irving, Texas, USA Years of Exp:20</p>	<p><u>CONTACT US:</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center; vertical-align: top;"> <p>FDP COORDINATOR</p> <p>Dr. Ramakrishna Kolikipogu Professor of IT, Head, CHNMS, CBIT Email : ramakrishna_it@cbit.ac.in krkrishna.csit@gmail.com Mobile : +91 9912807907</p> </td> <td style="width: 50%; text-align: center; vertical-align: top;"> <p>FDP CO-COORDINATOR</p> <p>Dr T Satyanarayana Murthy Associate Professor of IT, CBIT Email : tsmurthy_it@cbit.ac.in Mobile : +91 9025887845</p> </td> </tr> </table>				<p>FDP COORDINATOR</p> <p>Dr. Ramakrishna Kolikipogu Professor of IT, Head, CHNMS, CBIT Email : ramakrishna_it@cbit.ac.in krkrishna.csit@gmail.com Mobile : +91 9912807907</p>	<p>FDP CO-COORDINATOR</p> <p>Dr T Satyanarayana Murthy Associate Professor of IT, CBIT Email : tsmurthy_it@cbit.ac.in Mobile : +91 9025887845</p>	<p>5:00PM to 6:30PM</p> <p>Session 13 Topic: Future Trends and Case Studies - Emerging Trends and Real-World Applications of HPC in Data Science & AI. Name of the Expert: Dr Rutal S Mahajan Designation&Organization: Asst.Prof, Utica University, USA, Years of Exp:15</p>
<p>FDP COORDINATOR</p> <p>Dr. Ramakrishna Kolikipogu Professor of IT, Head, CHNMS, CBIT Email : ramakrishna_it@cbit.ac.in krkrishna.csit@gmail.com Mobile : +91 9912807907</p>	<p>FDP CO-COORDINATOR</p> <p>Dr T Satyanarayana Murthy Associate Professor of IT, CBIT Email : tsmurthy_it@cbit.ac.in Mobile : +91 9025887845</p>						
	<p>NO REGISTRATION FEE Register through ATAL Portal, Select Online FDP ID: https://atalacademy.aicte-india.org/login</p>				<p>6:30PM to 7:30PM</p> <p>Online test & feedback</p> <p>7:30PM to 8:00PM</p> <p>Valedictory Session</p>		