About Zeal Education Society:

Zeal Education Society, established in 1996 by Hon. Shri. S. M. Katkar, is committed to delivering quality education from pre-primary to Ph.D. level. The society operates multiple campuses across Pune and Sangli, including the Hingne Campus (Sinhgad Road), the Narhe Campus, the Talegaon Campus, and the Sangli Campus. With a strong vision for growth and excellence, the society continues to empower students with value-based education and future-ready skills.

About Institute

Zeal College of Engineering & Research, Pune is a UGC-recognized Autonomous Institute affiliated with Savitribai Phule Pune University. The college holds 05 UG program NBA accreditation, is graded 'A+' by NAAC with a CGPA of 3.44/4.0, and is ISO 21001:2018 certified, reflecting its strong academic quality and continuous improvement. With industry collaborations, modern infrastructure, and a student-centric approach, Zeal prepares graduates to excel in global engineering careers.

About Department

Established in 2007, the Mechanical Engineering Department offers a UG program, two PG programs, and a recognized Ph.D. Research Center. The department is NBA Accredited, ensuring quality education and industry relevance. With modern labs, advanced workshops, and highly qualified faculty, students learn through practical exposure, projects, and industry interactions. The department also hosts multiple Centers of Excellence in areas like CNC/VMC, Robotics, Electric Vehicles, and Metrology, preparing students as skilled and industry-ready mechanical engineers.

CHIEF PATRON

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Zeal Education Society, Pune

Dr. Jayesh S Katkar
Secretary,
Zeal Education Society, Pune

PATRON

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Mr. Sachin Nagpure BoS Member-Mechanical Engg, ZCOER, Pune.

Mr. Nikhil Chonde BoS Member-Mechanical Engg, ZCOER, Pune

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Prof. S. S. Borade
Mr. Shahaji Tonde

AICTE– ATAL Online 6-Day Faculty Development Programme
on
"Artificial Intelligence and Machine Learning in Mechanical Systems"

5th to 10th January, 2026
(Online Mode)
Under
AICTE Training & Learning (ATAL) Academy

Sponsored by
AICTE, New Delhi

Organized by

Department of Mechanical Engineering

Zeal Education Society's
Zeal College of Engineering & Research, Pune

An **Autonomous Institute**, Affiliated to Savitribai Phule Pune University, Approved by AICTE, New Delhi and Recoginze by Govt. of Maharashtra
Accredited by NAAC with "A+" Grade, NBA - 5 UG Programmes

About ATAL

ATAL Academy, an initiative of AICTE, provides training programs to upgrade faculty skills in emerging technologies and modern teaching practices.

About FDP

This AICTE–ATAL Online FDP introduces faculty to the fundamentals and applications of Artificial Intelligence and Machine Learning in mechanical systems. The programme covers essential AI/ML concepts, data handling, model development, and practical applications in robotics, automotive systems, manufacturing, and condition monitoring. Through expert sessions and hands-on demonstrations, participants will gain skills to apply AI/ML tools in teaching, research, and real-world engineering problems.

Objective

This FDP equips mechanical engineering faculty with essential AI/ML knowledge and practical skills for modern mechanical systems. The programme aims to:

- Build a strong foundation in AI/ML concepts and algorithms relevant to mechanical engineering applications.
- Develop hands-on proficiency in Python, data preprocessing, and model building using libraries such as NumPy, Pandas, scikit-learn, and TensorFlow.
- Demonstrate AI/ML applications in mechanical domains including robotics, automotive systems, machining, manufacturing, condition monitoring, and predictive maintenance.
- Introduce advanced digital tools such as digital twins, design optimization methods, and real-time monitoring systems.
- Enable faculty to integrate AI/ML methods into teaching, research, and Industry 4.0–aligned mechanical engineering practices.

Outcomes

- Gain a clear understanding of essential AI/ML concepts and their role in modern mechanical systems.
- Preprocess data and build machine learning models using Python and leading AI frameworks.
- Apply AI/ML methods to robotics, automotive systems, machining, and smart manufacturing.
- Develop skills in digital twin development, predictive maintenance, and data-driven condition monitoring.
- Integrate AI/ML techniques into curriculum, laboratory activities, and interdisciplinary research aligned with Industry 4.0.

RESOURCE PERSONS

Dr. D. S. Watvisave, Associate Professor, Cummins College of Engineering for Women, Pune

Mr. Ajit Patil, Sr. Director, Visa Inc, Atlanta, USA

Dr. Dashrath Kshirsagar, Assistant Professor, COEP Technological University, Pune

Mr. Yogesh Murumkar, Director, Bharat Soft Solutions, Pune

Dr. Ganesh Dhumal, Data Scientist, Matellio Inc., Pune/Jaipur

Mr. Rohan Dongare, Senior Data Scientist, Coupa Software, Dublin, Ireland

Dr. Harshad Dandage, Assistant Manager –Software, Lohia Mechatronik, Pune

Dr. Appasaheb Gadade, Assistant Professor, Thapar University, Patiala

Dr. Surajit Debnath, Women's Polytechnic, Tripura University

Dr. Mehdi Mehtab Mirad, Post-Doctoral Fellow, University Technology Malaysia

Dr. Punit Gharat, R&D Manager, Tritorc Equip. Pvt. Ltd., Pune

Mr. Rishikesh Gaikwad, Director – Data Sciences, Lam Research, Bangalore

Dr. Abhishek D Patange, -Data Science & AI Specialist, ABB's Center of excellence in Process Automation Digital, Bangalore

How to Apply

Participants must register through the ATAL portal: Register Now: https://atalacademy.aicte.gov.in/, Go to FDP > **Online** > January and select the Engineering & Management thrust area. Application Number: **1749536020**

PROGRAM COVERAGE

- Introduction to AI & ML – Concepts, Trends & Mechanical Applications
- Overview of Machine Learning Types: Supervised, Unsupervised & Reinforcement Learning
- Python for Mechanical Engineers – Basics & Data Handling with NumPy & Pandas
- Data Preprocessing, Feature Engineering, and Visualization Techniques
- Data Analysis (EDA) and Statistical Techniques for Mechanical Engineering
- Core ML Algorithms: Regression, Classification & Clustering
- AI–ML in Next-Gen Automotive Systems
- AI/ML in Manufacturing, Maintenance & Quality Control
- Design and Implementation of AI–ML Assisted Interactive Digital Tool for Real-Time Monitoring and Simulation in Robotics for Biomedical Applications
- Signal-Based Data-Driven Condition Monitoring in Ultrasonic Machining of Inconel 718
- AI-Driven Optimization Techniques in Mechanical Design
- Data-Driven Decision Making in Supply Chain Management
- AI/ML Applications in Robotics, Condition Monitoring & Autonomous Systems

TARGET AUDIENCE

Faculty members from AICTE- approved institutions, industry professionals, research scholars, and postgraduate students interested in AI/ML applications in mechanical systems.

REGISTRATION FEE

No registration fee for participants.

Certificates

Participants will receive an ATAL Academy certificate after : Minimum 80% attendance, and 70% marks in the end-assessment along with successful submission of the feedback form.

For More Details, Contact

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