BIP—SUMMER SCHOOL 2025

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APPLIED ARTIFICIAL INTELLIGENCE IN MECHANICAL ENGINEERING

PROGRAM
01-19 SEPTEMBER 2025 — 15h ON-LINE COURSES
22-26 SEPTEMBER 2025 — 30h ON-SITE ACTIVITIES & EVALUATION
26 SEPTEMBER 2025— 2h EVALUATION

This course aims to provide students with the knowledge and skills necessary to understand and apply artificial intelligence (AI) in the field of mechanical engineering. Through a practical and interdisciplinary approach, the course will explore the use of AI techniques, such as machine learning, neural networks, and optimization algorithms, in processes such as structural health assessment, smart manufacturing, predictive maintenance, and control of mechanical systems.

Our unique program goes beyond theory, offering an immersive learning experience with **hands-on activities**. Students will actively engage in **ANN training**, **Training Database generation**, and **Applied Structural Health Monitoring using AI**, gaining practical skills that set them apart in the industry.

Site visits to **leading companies** and the chance to **meet experts in the field of AI** further enhance their understanding, providing real-world insights into the application of Artificial Intelligence in Industry.

Upon completion, participants earn **3 credits**, recognizing their academic achievement and the valuable experiences gained throughout the program.

Who can apply ?
The BIP targets Bachelor and Master students interested in Digital Product Development and Reverse Engineering.

Costs
- We can offer budget-friendly accommodation in our campus in Cluj-Napoca for participants who register by April 15.
- Erasmus+ can cover your travel costs.

Events in the same period:
ICMSD conference.
Find out more: https://www.icmsd-conference.com/

Registration & contact:
Due to the hands-on nature of the course and personalized attention provided, we have limited seats available to ensure an enriching experience for each participant.
Simply send an email to **cristian.tufisi@ubbcluj.ro** with your full name, institution's name and contact details.
Find more about Cluj-Napoca on the following link:
https://visitcluj.ro/about-cluj-napoca/
Geolocation: **https://maps.app.goo.gl/6MumQtRB2BsBHLqk9**
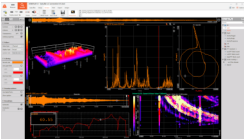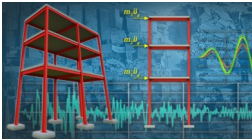
MAIN TOPICS

Introduction to Artificial Inteligence

Machine Learning Fundamentals

Acquisition and Processing of Data Collected from Dynamic Systems

Dynamics of Structures and Data Generation for Training ANN's

AI for Structural Health Monitoring

Faculty of Engineering
Cluj-Napoca Romania
Closest airport: Cluj-Napoca