



## AUA-IITB Overseas Study Programme 2022 – Artificial Intelligence in Education

**When:** 23<sup>rd</sup> May 2022 to 3<sup>rd</sup> June 2022

**Where:** Indian Institute of Technology Bombay (IIT Bombay), India – Online mode

**Who:** Open for all students (Undergraduate, Postgraduate, PhD)

**Why:** Artificial Intelligence has found its way today into a variety of domains through its applications. Education is one such domain. With the arrival of digital learning technologies, we are capturing data at an unprecedented volume, and this allows us to harness this data to cater to the requirements of the prime stakeholder of education- the learner. Understanding the learners’ data and making interpretations from it using novel AI techniques require an adequate interdisciplinary understanding of this field. At IIT Bombay we have one of the few centers in the country dedicated solely to this aim. Our goal is to improve the current state of education which is rapidly shifting towards online platforms for learning.

This course will provide an overview of how artificial intelligence techniques and machine learning algorithms can be applied to data from the educational domain to provide better teaching-learning experiences. The course will cover how to collect data from different learning environments, how to analyze this data, and apply suitable types of analytics to make meaningful interpretations. The course will allow the learners to get familiar with real-life educational data. The course will provide the participants with strong exposure to the current state of AI applications on educational data and provide them with a foundation for a future in this field should they choose to pursue it.

### **Program Schedule:**

*Morning sessions: 10:30 am to 12 pm (Indian Standard Time, UTC+5:30)*

*Afternoon sessions: 1 pm to 2:30 pm (Indian Standard Time, UTC+5:30)*

Date	Time	Topic
23-May-22	10:30 am to 12 pm	Introduction to AIED. Levels of analytics: Descriptive, Diagnostics, Predictive and Prescriptive
	1 pm to 2:30 pm	Introduction to Python Programming and Assignment 1
24-May-22	10:30 am to 12 pm	Data Collection from Different learning environments. Ethics and Data Privacy
	1 pm to 2:30 pm	Python Programming - Basics and tutorial for assignment 1
25-May-22	10:30 am to 11 am	Introduction to Machine Learning
	11 am to 12 pm	Performance Metrics for ML algorithms

<b>Date</b>	<b>Time</b>	<b>Topic</b>
	1 pm to 2:30 pm	Data Visualisation
26-May-22	10:30 am to 12 pm	Descriptive Analytics
	1 pm to 2:30 pm	Diagnostics Analytics - Correlation
27-May-22	10:30 am to 12 pm	Linear Regression, K-Means Clustering
	1 pm to 2:30 pm	Tutorial - ML tools
30-May-22	10:30 am to 11:15 am	Sequential Pattern Mining
	11:15 am to 12 pm	Process Mining
	1 pm to 2:30 pm	ML Tools Assignment Presentation
31-Jun-22	10:30 am to 12 pm	Decision Tree, Naïve Bayes
	1 pm to 2:30 pm	Introduction to OULAD dataset and Course Project details
01-Jun-22	10:30 am to 12 pm	Intro to Text Analytics
	1 pm to 2:30 pm	Multimodal Learning Analytics
02-Jun-22	10:30 am to 12 pm	Other topics in AIED
	1 pm to 2:30 pm	Course Project Presentation
03-Jun-22	10:30 am to 12 pm	Course Project Presentation
	1 pm to 2:30 pm	Course Project Presentation