

MBA – Focusing on Entrepreneurship, Innovation & Technology Management

Syllabus

99100- Project in Big data and business intelligence

Mini 8 - 2023

Class 216

Thursday – 15:00-19:00

Teaching Staff:

Instructor: Yaarit Lotan [yaarit.lotan@technion.ac.il]
Office Hours: by appointment
TA's: Yael Henquin-Malerevich [yaelhm@technion.ac.il]
Office Hours: by appointment

Prerequisites: Python

Credits: 5 points

Course Goals and Description

The students will execute an end-to-end machine learning project from problem definition to solution

The students will be exposed to AI/ML latest trends and Industry examples

Learning Outcomes

At the end of the course the students will be able to identify business problems that can be solved using machine learning and big data methods and execute an end to end machine learning project from definition to production.

Course Content/Topics

- Business problem definition
- Machine learning workflow
- Practical tools for machine learning
- Industry & academic use cases for applying AI to solve business challenges.

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Assignments and Grading Procedures

Class participation- 20%
Problem definition presentation- 20%
Final project – 60%

Course Schedule (Topics, assignments, Exams)

Lesson 1:

Project scope, amazon press release method
Data collection: Understanding data types, public data sets overview
Teams workshop- Meetings of the teams with Instructor

Lesson 2: 9/3/2023

From business KPIs to machine learning methods
Data preparation, tools/environments
Teams' workshops: Data preparation

Lesson 3:

Teams' presentation (10 min + 5min Q&A):
 Problem definition using Amazon press release method
 Machine learning data and task definition
Decision trees

Lesson 4:

Classic machine learning algorithms overview
Importance of explainability
Training flow, tools/environments

Lesson 5:

Deep learning Intro (computer vision, language models)
Training flow, tools/environments
External- how AI applied in Intel? Intel IT - Nir

Lesson 6:

Generative AI- stable diffusion, DALLE, ChatGPT
External- Shlomi Laufer
Teams' workshops

Lesson 7:

External (Ofra Amir) – Explainability ? RL?
Teams' workshops

Lesson 8: Final summations



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Course Requirements & Course Policies

Accommodation for Students with special needs

Will be given by need

Text book(s) and/or other materials

<https://wesmckinney.com/book/>

<https://www.youtube.com/@statquest/playlists>

<https://course.fast.ai/>

Academic Integrity

Other useful information for students