UNIVERSITÀ DEGLI STUDI DI TRIESTE

Data-driven Systems Engineering

Progettazione dei Sistemi Data-Driven

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Summary

About the Professor
Sylvio Barbon Junior

01

About the Course
Data-driven Systems Engineering

02

Course Goals
Main objectives and capacity to be developed

03

04

Final Project Examples
Random examples of final projects

05

Requirements
Main expected background from the students

Sylvio Barbon Junior

About the Professor

- **Teaching**:
  - 2012-2021 - Professor at the University of Londrina (Brazil)
  - 2021 - Professor at the University of Trieste
- **Research**:
  - Pattern Recognition and Machine Learning
  - Meta-Learning
  - Stream Mining
  - Process Mining

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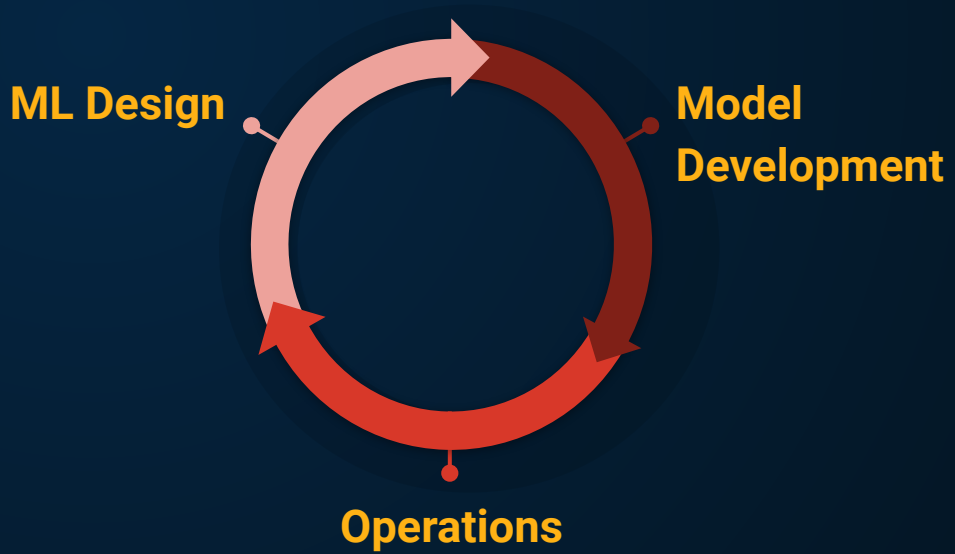
About the Course

Course:
Data-driven Systems Engineering (Progettazione dei Sistemi Data-Driven)

Period:
Second Semester

Credits: 9

Duration: 72



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About the Course

Python

. Python Setup
. Python Basics
. Python Object Oriented
. Python Libraries
. Python for Machine Learning

Software Engineering

. What and Why focus on S. Eng?
. People and Rules
. Feature and Concepts
. Agile Methodology
. Monitoring and Governance

Machine Learning

. Data Representation
. Problem Representation
. Machine Learning Models
. ML Design patterns
. MLOps

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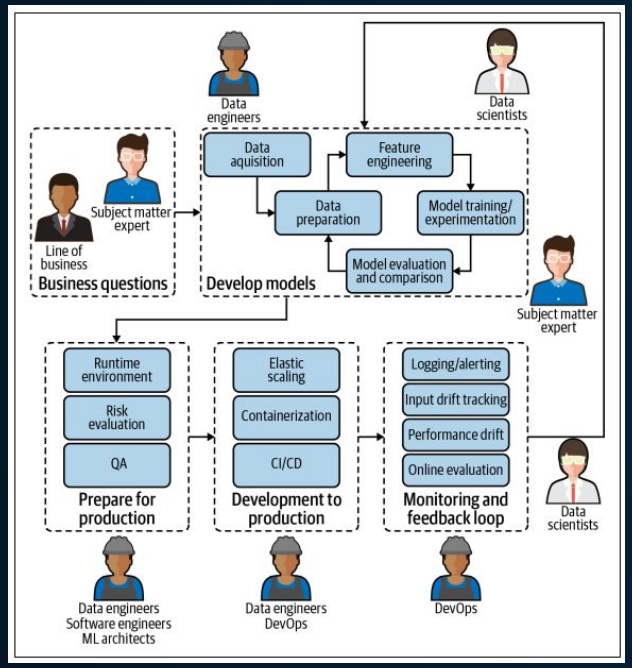
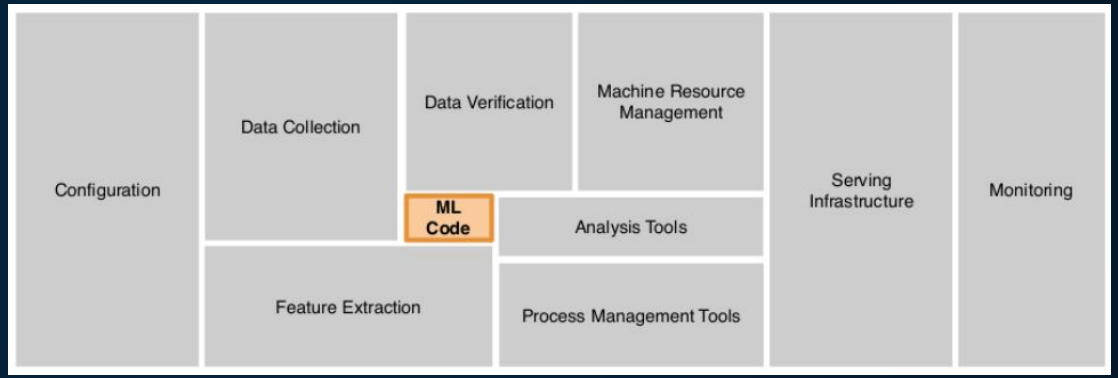
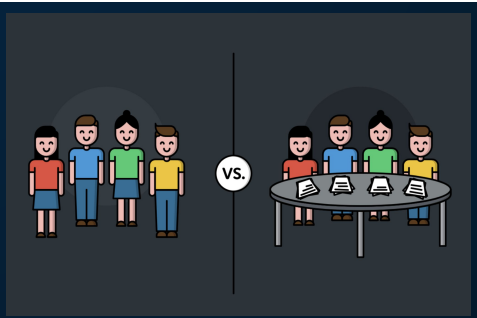
About the Course







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Course Goals

- Know the principles and techniques of the **design** and **implementation** of an **Information System;**
- Acquire the ability to design an information system, use independently the **techniques and tools** learned;
- **Represent** and display the knowledge learned using **Machine Learning principles**;
- **Interpret** and independently learn **the evolution of methodologies** and apply new techniques and design tools;

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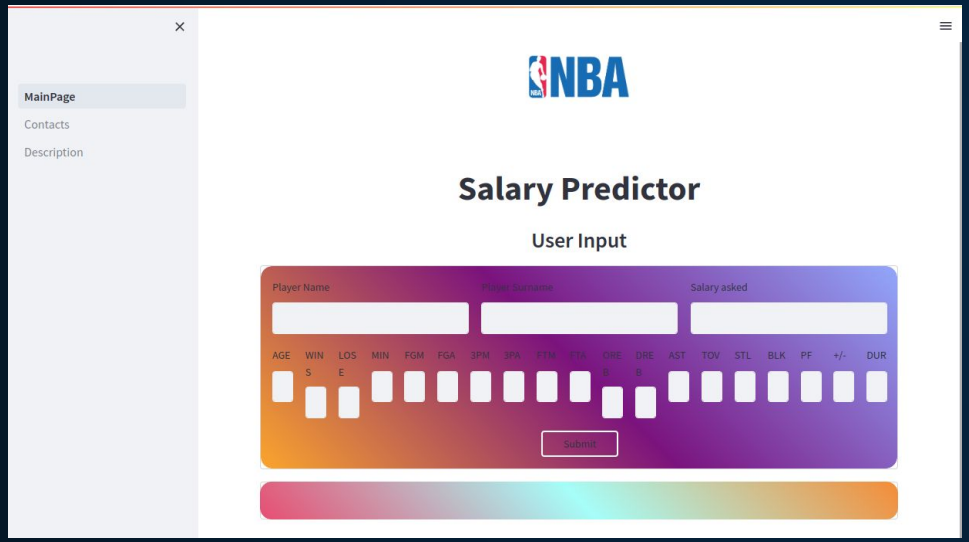

Final project Examples

- NBA Salary predictor

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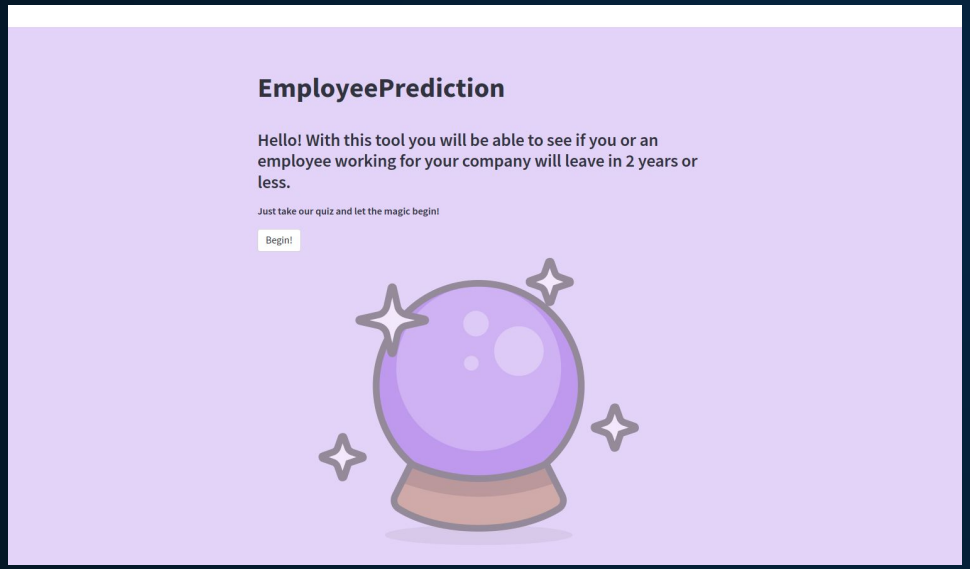

Final project Examples

- Employee Prediction Project:

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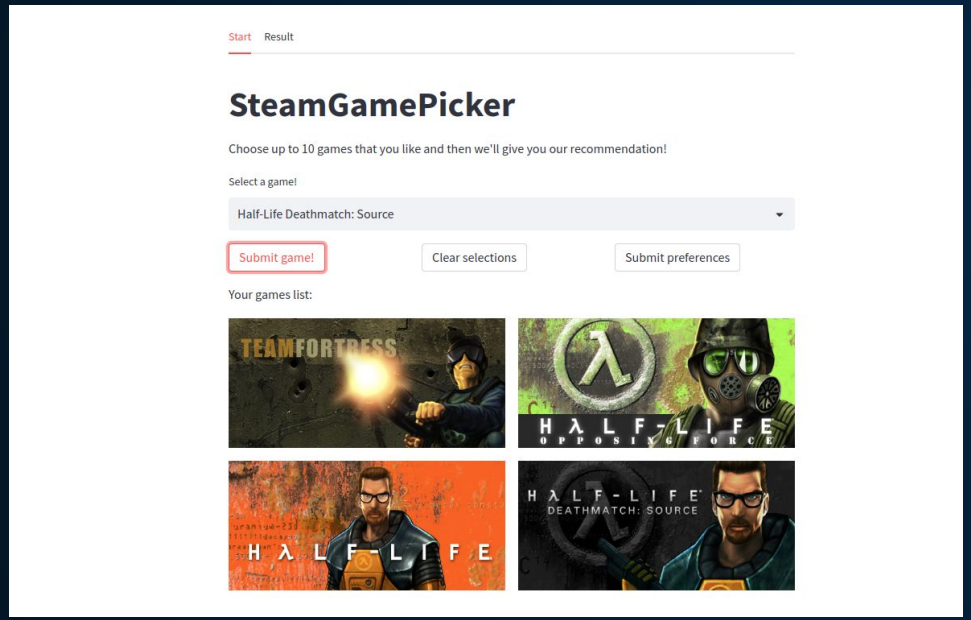

Final project Examples

- Steam game recommender

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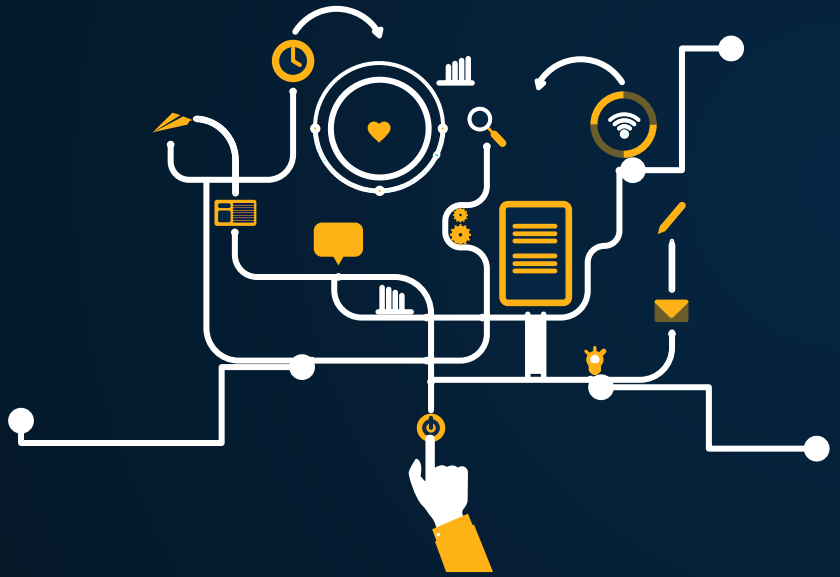

Requirements

- Knowledge of **basic computer science elements**
- Basic knowledge of **data processing** techniques
- Basic techniques for building **databases**
- Use of **elementary IT tools** such as text manager and **spreadsheet**
- Knowledge of **machine learning**

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For any case, get in touch!

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