

## Football Analytics Lab

### COMPANY DESCRIPTION:

Soccerment is establishing itself internationally as a pioneering company in the field of Artificial Intelligence (AI) applied to sports. It is the first company to introduce a comprehensive range of products and services dedicated to soccer, powered by AI algorithms. Soccerment provides scalable solutions for data collection and advanced analysis to players, sports clubs, and industry professionals, optimizing aspects such as performance evaluation, talent discovery, and development, at all levels of the soccer pyramid.

### LAB DESCRIPTION:

This Lab aims to introduce students to football analytics, with the goal that by the end of the course, students will be able to understand the main sources and types of data, the metrics and algorithms most used, as well as what are the main future challenges. The Lab includes a series of lectures, where the theoretical activity will be explained, and a group activity where students will be asked to build a small algorithm by participating in an internal hackathon on current match data.

### MAIN TOPICS:

The workshop begins with an introduction to Soccerment and its innovative data analysis solutions: XSEED, XVALUE, and AIDA. It offers an in-depth exploration of data literacy, scientific data analysis, and the tools of data science, emphasizing various data types like aggregate, event, tracking, and hybrid. The workshop also explores key metrics in shooting (e.g., Expected Goals, xGoT, Goals prevented), passing and chance creation (e.g., Expected Assists, xOVA), and sophisticated action-value frameworks (e.g., Expected Threat, VAEP, EPV) that offer deeper insights into player and team performances. Additionally, tactical metrics (e.g., progressive actions, one-twos), defensive metrics and duels, pressing and re-pressing metrics are examined to understand their impact on the game. The course also includes analysis of team reports, pitch control strategies, and methodologies to simulate and predict match outcomes, providing a comprehensive toolkit for aspiring football analysts

### (TENTATIVE) CALENDAR:

20 hours (To be confirmed)

- **13/3 (Wednesday): 8:30 - 12:30 (4 h - Live)** – DEMM Seminars Room, 2<sup>nd</sup> floor (via Conservatorio, 7 Milan)
- **15/3 (Friday): 8:30 - 10:30 (2h - online)**
- **18/3 (Monday): 8:30 - 12:30 (4 - live)** – DEMM Seminars Room, 2<sup>nd</sup> floor (via Conservatorio, 7 Milan)
- **22/3 (Friday): 8:30 - 10:30 (2h - online)**
- **27/3 (Wednesday): 8:30 - 14:30 (6 h - live - group work)** – DEMM Seminars Room, 2<sup>nd</sup> floor (via Conservatorio, 7 Milan)
- **15/4 (Monday): 8:30 - 12:30 (Final Event - live)** – DEMM Seminars Room, 2<sup>nd</sup> floor (via Conservatorio, 7 Milan)

### ELIGIBLES STUDENTS:

- 10 first and second year DSE students

### SKILLS:

- Knowledge of Python

### HOW TO APPLY:

- Send application to the following [form](#)
- [deadline](#) (tentative): 7/3/2024