

MLOps Project Management - 24 academic hours

Workshop Overview:

The MLOps Project Structure and Management workshop focuses on building a structured, controlled, and scalable working framework for Machine Learning projects, from understanding the full ML project lifecycle to applying DevOps principles in data and model-driven environments.

Throughout the workshop, participants learn how to design ML projects in a structured and scalable manner, manage work within cross-functional teams, and implement best practices for version control, task tracking, and project documentation.

What Participants Gain?

- Understanding the full Machine Learning project lifecycle from design to deployment
- Ability to plan and manage ML projects in a structured and scalable way
- Hands-on experience with Git and best practices for collaborative development
- Mastery of data and experiment management principles for reproducibility
- Practical use of DVC for data versioning
- Applying MLOps principles to integrate DevOps practices into ML projects

Target Audience

- Data and technology professionals seeking to adopt organizational best practices for managing code, data, and collaboration in ML projects
- DevOps engineers involved in AI and Machine Learning initiatives
- Developers with experience in models and algorithms looking to expand their expertise into MLOps
- Data Engineers responsible for data management, pipelines, and versioning in ML projects
- Data Scientists and ML Engineers aiming to manage and deploy Machine Learning solutions in

Prerequisites

- Basic familiarity with Machine Learning principles and/or experience working with models and algorithms.
- Experience with at least one programming language, preferably Python
- Basic understanding of working with data, files, and databases

- Good technical English proficiency, including reading and understanding technical documentation

Workshop Syllabus

- **MLOps Introduction**
 - The lifecycle of machine learning projects
 - The alignment of machine learning with DevOps principles
- **Project Structuring**
- **Collaboration and Management**
 - Project management tools and collaboration practices
 - Version control, issue tracking, and project documentation
- **Version Control and Code Quality (Git)**
 - Git
 - Strategies, merging, conflict resolution, and pull requests
- **Data Management in MLOps**
 - Managing and versioning data in machine learning projects
 - The challenges related to data consistency, reproducibility, and collaboration
- **Introduction to Data Version Control (DVC)**
 - DVC as a solution for data versioning
 - DVC for tracking changes, sharing data, and reproducing experiments