

MLOps for Medical Imaging Made Easy

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Registration Link

<https://forms.office.com/r/7KY2JFR06x>

Abstract

This course offers a comprehensive examination of Machine Learning Operations (MLOps) in relation to computer vision. The course begins with an overview of MLOps and computer vision, then dives deeply into the fundamentals of machine learning and specific approaches to computer vision.

Participants will gain knowledge of the main MLOps platforms and technologies, as well as appropriate data management techniques. The model development lifecycle is also covered in the course, with an emphasis on hyperparameter optimization and model validation. By integrating MLOps into computer vision research, researchers can ensure that their models are not only theoretically sound but also practically viable.

Target Audience

Computer Science Students: Undergraduate or graduate students interested in concentrating in machine learning operations and computer vision who are studying computer science, data science, or a similar discipline.

Machine Learning Practitioners: Professionals in the machine learning industry who wish to improve their knowledge of and abilities in MLOps and its use in computer vision.

Data Scientists: Data scientists who want to comprehend the practical facets of implementing machine learning models, particularly in the context of computer vision.

Software Engineers: Software engineers who wish to comprehend the lifespan of machine learning models, from development to deployment and maintenance, and who are making the transfer into data-centric roles.

Medical Professionals: Healthcare industry experts that are curious about how MLOps might be used in medical imaging and other computer vision applications in the field.

Tutorial 2



Pre-requisites

Basic understanding of machine learning concepts.

Familiarity with programming languages, particularly Python.

Experience with data analysis and manipulation.

Basic knowledge of cloud computing platforms (AWS, Google Cloud, Azure).

Understanding of version control systems like Git.

Familiarity with continuous integration and continuous deployment (CI/CD) practices.

Basic knowledge of computer vision principles and techniques is beneficial but not mandatory.

Technical requirements

Stable internet connection.

A laptop or desktop computer with a minimum of 8GB RAM (16GB or more recommended).

A GPU (Graphics Processing Unit) with CUDA support for deep learning tasks (NVIDIA recommended).

Python 3.x (latest version recommended).

Integrated Development Environment (IDE) such as PyCharm, VS Code, or Jupyter Notebook.