Web Applications and Containers

Learning Outcomes

By the end of this workshop you will:

1. Set up your complete MLOps Development Environment
2. Understand how to deploy ML models to containerized web apps using industry-standard tools
3. Build your own containerized web app using an ML model of your choice

Detailed 1-Day Workshop Schedule

Module	Topics	Build Activities
Introduction	**Introduction** • Workshop Overview • Interactive Development Environments (IDEs) • Git Branch Development • Command Line Essentials **Manual MLOps Deployments** • MLOps Level 0: Manual	• Icebreaker Networking • Interactive End-to-End "Deploy Stock Prediction Service" Demo • **Setting up Visual Studio Code and GitHub**
Web Applications	**Preliminaries** Definitions: Deployment, Endpoints, Ports, APIs, HTTP **Web App Frameworks** • A Brief History (Flask, Django) **FastAPI Architecture** • Swagger UI • Uvicorn	• Interactive FastAPI backend and docs walkthrough • **Deploying an ML application locally**

Containers	**Containers** ● A Brief History (OS to VM to containers) ● Containers and Container Orchestration **Docker** ● Docker architecture ● Docker Hub	● Interactive container setup Demos** ● **Deploying a containerized stock prediction service**
Advanced Tools	**Creating Beautiful, Shareable Front Ends with Python** ● Streamlit **The Hugging Face Hub** ● Datasets, Models, Spaces **Cursor** ● AI-first Code Editor	● Demo: Shareable Streamlit apps in GitHub ● Demo: Hugging Face 1-click deployments ● Demo: software development with Cursor
Build Time	● **Working Session**	● 1:1 Consulting
Workshop Judging and Awards	**Announcements of Workshop Award Winners!** **Workshop Certificates!**	● **Assessing the Work of Other Teams**

* Activities in **Bold Pink** will be working sessions for you and/or your team!

Register Now for Web Apps and Containers!

About FourthBrain

FourthBrain trains engineers, developers, data scientists, and leaders to make an impact in the Artificial Intelligence field, with our flexible, accessible education programs. We are training a new generation of engineers and leaders who have more than just technical ability; they have an awareness and mindset of what is needed to succeed with AI. We are part of the AI Fund, founded by Andrew Ng.