← Machine Learning Roadmap for MlOps

1. Best Strategy to Learn Machine Learning for MLOps

Approach:

- **Foundation First**: Master ML basics before diving into deployment and pipelines.

- **Hands-On Focus**: Build mini-projects at every stage.

- **MLOps Mindset**: Learn ML with scalability, reproducibility, and automation in mind.

- **Parallel Learning**: Learn version control, Docker, and CI/CD alongside ML.

Phases:

1. **Phase 1 (2–3 Weeks)** – ML Basics: Supervised/Unsupervised learning, regression, classification.

2. **Phase 2 (3–4 Weeks)** – Model Evaluation, Tuning, Pipelines.

3. **Phase 3 (4–6 Weeks)** – Scalable ML, deployment with Docker, MLFlow, FastAPI, Airflow.

4. **Phase 4 (Ongoing)** – Integrate models in CI/CD, automate pipelines, monitor performance, logging.

2. What Skills Are Required to Learn Machine Learning for MLOps

Core ML Skills

- Supervised/Unsupervised Learning

- Regression, Classification

- Model Evaluation Metrics (F1, AUC, RMSE)

- Feature Engineering

DevOps & Software Engineering for MLOps

- Docker, Kubernetes

- Git, GitHub Actions, Jenkins

- REST APIs (FastAPI/Flask)

- ML Libraries: Scikit-learn, XGBoost, LightGBM

- MLFlow, DVC, TFX, Airflow

Data Engineering

- Pandas, NumPy

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- Spark (basic level)

- Data pipeline orchestration

Cloud & Deployment

- AWS/GCP/Azure basics

- S3, EC2, Lambda, SageMaker

- Streamlit/Gradio for demoing ML models

3. How Much Time Will It Take to Learn Machine Learning

Learning Type	Timeline (Part-time)	Timeline (Full-time)
ML Fundamentals	1–1.5 months	2–3 weeks
Intermediate + APIs	1.5–2 months	3–4 weeks
MLOps + Deployment	2–3 months	1–1.5 months
Project + Portfolio	Ongoing	Ongoing

Total (Realistic Switch): 4–6 months with consistent effort.

4. Best Resources to Learn Machine Learning for MLOps

Free Courses

- **Google ML Crash Course** – developers.google.com/machine-learning/crash-course

- **FastAI Practical Deep Learning** – course.fast.ai

- **Full Stack Deep Learning** – fullstackdeeplearning.com

YouTube Channels

- Krish Naik

- Telusko

- Goku Mohandas

- Daniel Bourke

- Aakash N S (Scaler)

- Deeplearning.ai

GitHub Repos

- **MadeWithML**

- **Awesome-MLOps** – curated list of tools

- **End-to-End ML Projects by Abhishek Thakur**

5. 10 Project Ideas of Machine Learning for Your MLOps Resume

1. **End-to-End Fraud Detection Pipeline** (Data ingestion to deployment)

2. **ML Model Deployment with FastAPI + Docker + GitHub Actions**

4. **Text Classification Pipeline with Airflow Orchestration**

5. **Image Classification with TensorFlow + Dockerized CI/CD**

6. **Recommendation System with Scalable Data Pipeline**

7. **ML Model Monitoring using Prometheus and Grafana**

8. **Deploying ML Model on AWS Lambda or SageMaker**

9. **Time Series Forecasting with Model Registry using DVC**

10. **Auto Retraining Pipeline for Real-time ML Models**

6. Industries Which Are Hiring for MLOps Engineers

- **FinTech**: Credit scoring, fraud detection, algo trading

- **Healthcare**: Predictive diagnostics, drug discovery pipelines

- **Retail & E-commerce**: Recommendation systems, inventory predictions

- **EdTech**: Adaptive learning models

- **Telecom**: Churn prediction, customer insights

- **Cybersecurity**: Anomaly detection, threat monitoring

- **Manufacturing**: Predictive maintenance, quality checks

- **B2B SaaS**: AI-enabled services, MLOps platforms

Top Companies Hiring: TCS, Infosys, Google, Amazon, Razorpay, Zoho, Swiggy, Fractal Analytics, Freshworks, Innovaccer

7. Best Strategy to Prepare and Build Good Network Over LinkedIn to Crack Job as a MLOps Engineer

Step-by-Step Strategy:

1. LinkedIn Optimization

- Update your headline to include *"Aspiring MLOps Engineer | ML | DevOps | Deployment"*

- Write a summary highlighting hands-on projects, tools, and your job switch intent

- Add links to your GitHub, portfolio, and blog if available

2. Content Creation & Learning in Public

- Post regularly about what you're learning (e.g., "Today I implemented model tracking with MLFlow…")

- Share challenges, mistakes, and breakthroughs

- Use hashtags like #MLOps #MachineLearning #DevOps #LearningInPublic

3. Connect and Engage

- Follow and interact with MLOps engineers, hiring managers, and recruiters

- Comment on their posts with genuine insights

- DM after meaningful interaction (e.g., after commenting on a post)

4. Projects as LinkedIn Posts

- Explain: Business problem, your solution, tech stack used

5. Job Hunting

- Set job alerts for MLOps, ML Engineer, and Data Engineer roles

- Target startups and mid-sized firms actively building ML pipelines

- Apply with custom cover letters that mention your MLOps journey