**ML-DevOps**

**Month 1: Foundations of ML-DevOps and Model Development**

Week 1: Introduction to ML-DevOps

* Definition and principles of ML-DevOps
* Key challenges in integrating machine learning with DevOps
* Importance of collaboration between data science and operations teams

Week 2-3: Basics of Machine Learning

* Overview of machine learning concepts
* Types of machine learning (supervised, unsupervised, reinforcement learning)
* Understanding features, labels, and model training

Week 4-5: Model Development Practices

* Data preprocessing and feature engineering
* Model training and evaluation
* Version control for machine learning models

Week 6: Model Deployment and Containerization

* Containerizing machine learning models with Docker
* Deployment options (e.g., Kubernetes, serverless)
* Continuous Integration and Continuous Deployment (CI/CD) for models

**Month 2: Advanced ML-DevOps Concepts and Optimization**

Week 1-2: Model Monitoring and Performance Optimization

* Implementing monitoring for machine learning models
* Handling model drift and retraining strategies
* Techniques for optimizing model performance

Week 3-4: Explainability and Bias in ML Models

* Importance of model explainability
* Addressing bias in machine learning models
* Tools and techniques for model interpretability

Week 5-6: Security in ML-DevOps and Final Project

* Security considerations for machine learning models
* Ensuring data privacy and compliance
* Final project: Building an end-to-end ML-DevOps pipeline