

MLOps Iris Classification – End to End Pipeline

Group No: 70

Name	ID	Contribution(%)
Dhiman Kundu	2023ac05129	100
Rina Gupta	2023ac05028	100
Sarit Ghosh	2023ac05131	100
Soumen Choudhury	2023ac05143	100

- **GitHub Repository:** Complete project hosted on GitHub with clean structure

<https://github.com/SaritGhoshBits25/MLOps Assignment Group70>

- **Docker Hub Repository:**

<https://hub.docker.com/r/wp1412011989/iris-api>

- **Demo Video Link:**

https://drive.google.com/drive/folders/15KfNF9Iwzfgb3ljQ0udrMe5CuQ60zw4y?usp=drive_link

Architecture Implementation Summary

The MLOps architecture for the Iris Classification system implements a comprehensive machine learning operations pipeline that ensures scalability, reliability, and maintainability. The system follows modern DevOps practices with automated CI/CD, monitoring, and containerization.

- Complete MLOps pipeline with data versioning, model tracking, and automated deployment
- Microservices architecture with Docker containerization and orchestration
- Comprehensive monitoring with Prometheus metrics and health checks
- Automated CI/CD pipeline with GitHub Actions for testing and deployment
- Production-ready API with FastAPI, input validation, and error handling
- Multi-algorithm ML implementation with MLflow experiment tracking
- Data version control with DVC for reproducible data processing
- Database logging and audit trail for prediction tracking

Architecture Diagram:



