



Dev

Development  
Testing  
QA Team

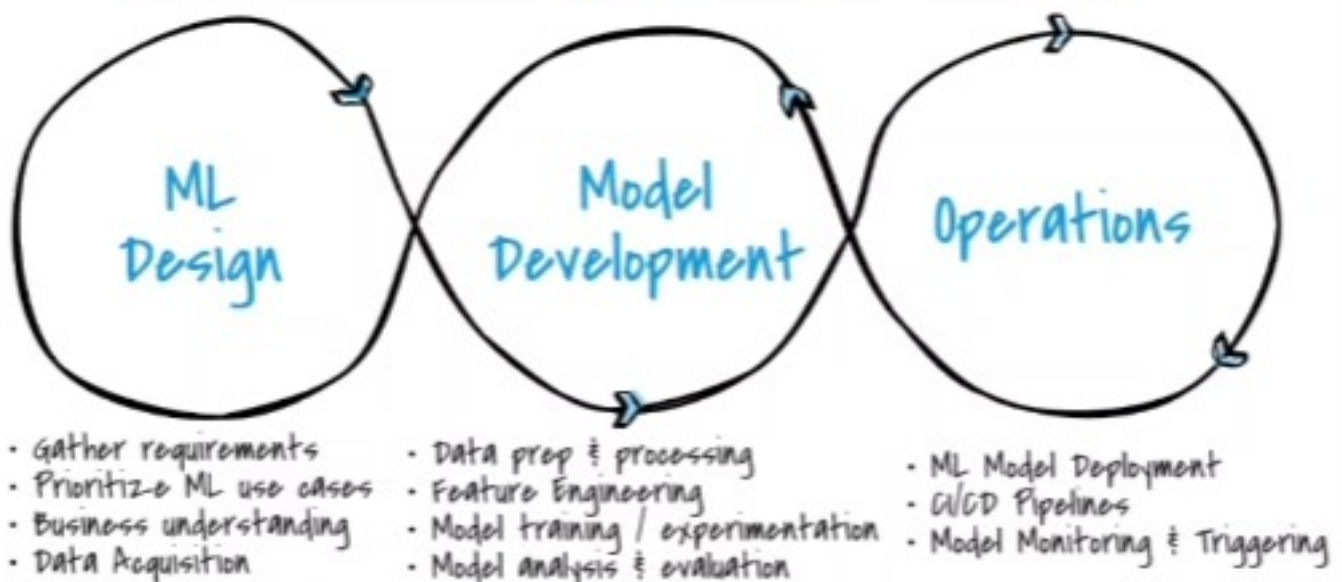
Ops

Delivery  
Deployment  
Maintenance

## Introduction to MLOps

- Machine learning operations (MLOps) are a set of practices that automate and simplify machine learning (ML) workflows and deployments. It is the development and use of machine learning models by development operations (DevOps) teams. MLOps adds discipline to the development and deployment of machine learning models, making the development process more reliable and productive.

### Machine Learning Operations (MLOps)



1. **Code standards** - OOPS concept, modular coding, work with logging module for better debugging, managing (artifacts, components, pipeline etc)

2. **Code Versioning** - Git & GitHub (Bitbucket, GitLab)

3. **Data/Model versioning, maintaining data pipeline & experimentation** - DVC, MLflow (Neptune, Seldon, Kubeflow, ZenML)

4. **CICD tools** - GitHub Actions, CircleCI, TravisCI

5. **Containerization for code reliability** - Docker and Dockerhub

6. **Scalability & Monitoring** - Kubernetes, Prometheus, Grafana

7. **AWS Services** - IAM User, ECR, S3, EC2 etc

**All in one services** - AWS Sagemaker, Google Vertex AI, Azure ML

