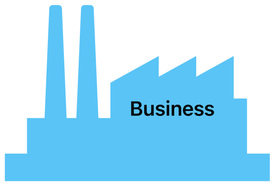
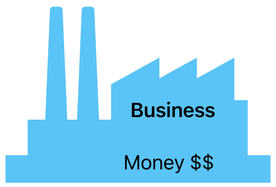
MLOps



DevOps

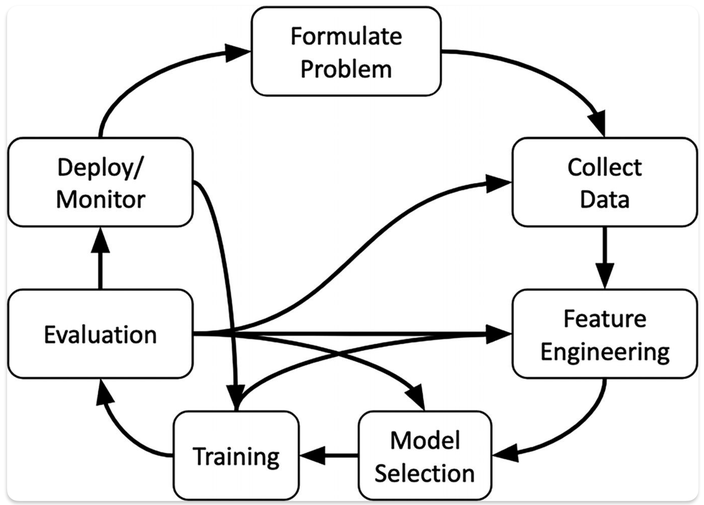
- Reliably Develop
- Deploy Large Scale Projects
- Promote collaboration
- Minimize the gap between development & operations
- communication
- knowledge sharing

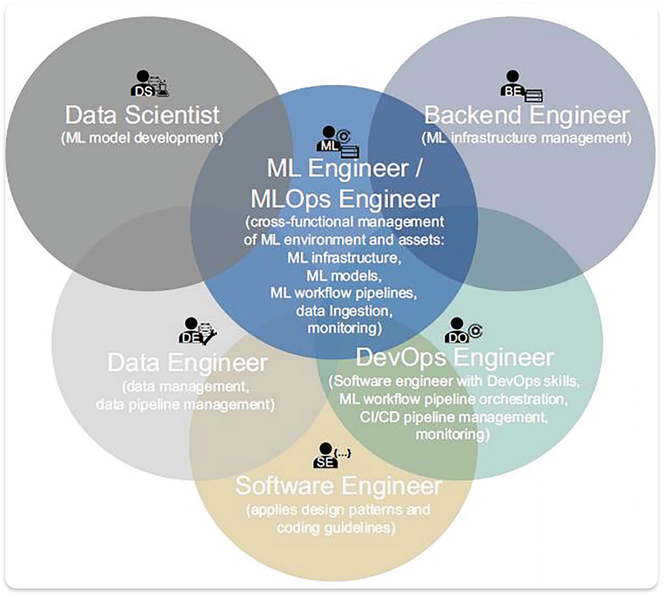
ML Projects



- Enable ML Projects to
- Producition in a repeatable, consistent and efficient manner

- Only When ML Projects are deployed to Production and Properly monitored





Trained ML Model = Data + ML Algorithm + Hyperparameters

Challenges:

1. Trained Model is Generated from historic Data. We will have data-related activities, such as collection of data, labelling of data, visualisation, statistical test, etc
2. Development of Trained Model is an iterative process, it requires exploration and experimentation
3. ML Model Performance can degrade over the time as the statistical properties of new data change in relation to historical data.
4. ML projects require collaboration between data scientists, data engineers, ML Engineers and Domain experts.

Principles in MLOps

1. Automation
2. Versioning
3. Experiment Tracking - Code, Preprocessors, Trained model file, Hyperparameter setting, dataset
4. Reproducibility
5. Testing (Data Related Testing & Model Related Testing)
6. Continuous ML Training, Evaluation and Deployment
7. Continuous Monitoring