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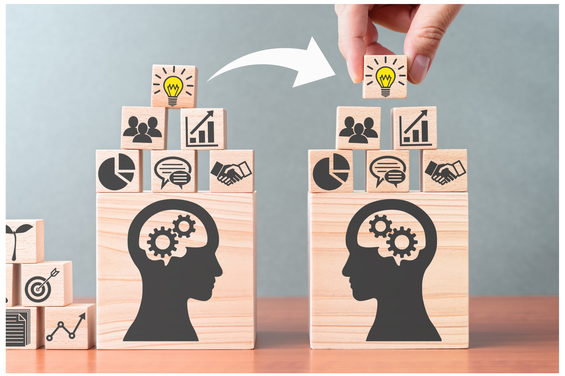
ABOUT ME

Over the last 17 years in my IT Career, I have worked as Wintel, Linux Middleware Engineer, Infrastructure Architect, Cloud Solution Architect, Bigdata Manager, DevOps Leads, and Data and Machine Learning Platform Lead Engineer. I worked in Europe, Canada, and the US for a brief period of time.

I always love to learn - Unlearn - Relearn, Motivated to Share knowledge with peers, community and learn from them.

I have 50+ Technical Certification in AWS, Azure, IBM Cloud, CKA/CKAD, TOGAF Level 2 Certified

Session Details



01	DEVOPS	DevOps Principle, Outcome and Values, Reference Architecture
02	MLOPS	MLOps Principle, Outcome and Values, Reference Architecture
03	DEMO	Build a MLOps Pipeline using Azure DevOps - Train, Build, Deploy and Monitor
06	QA AND FEEDBACK	How to Build a MLOps Career Feedback about the session

WHAT YOU LEARN TODAY

- What is Machine Learning Operation (MLOps)
- How to apply DevOps Principle in Machine learning Operation
- Demo- Implement the basic Machine Model using MLOps Practice

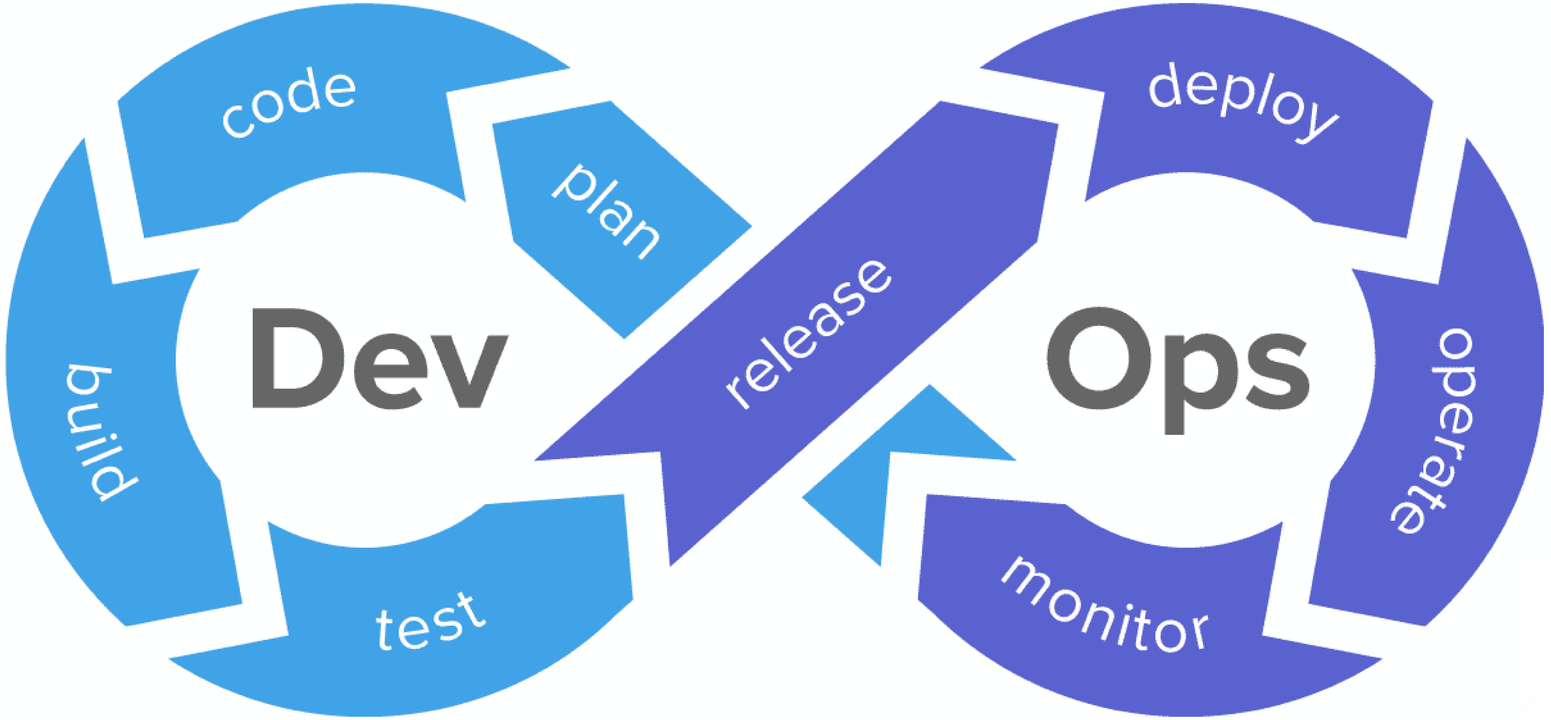
Know Your Audience

Developers (Fronend, Backend, FullStack, Mobile, Web)

SRE, DevOps, Cloud Engineer, Architects

Data Engineers, Data Scientists, Machine learning Engineer

How Many People Seen this Before



DEVOPS PRACTICE

- Continuous Development
- Continuous Code Testing - Quality
- Continuous Code Testing - Security
- Continuous Integration
- Continuous Delivery
- Continuous Deployment
- Continuous Monitoring
- Infrastructure as Code

DEVOPS OUTCOMES

- Faster Product Delivery
- Automation to Improve effeciency
- Shift Left approach
- Quality Deliverable
- Greater innovation

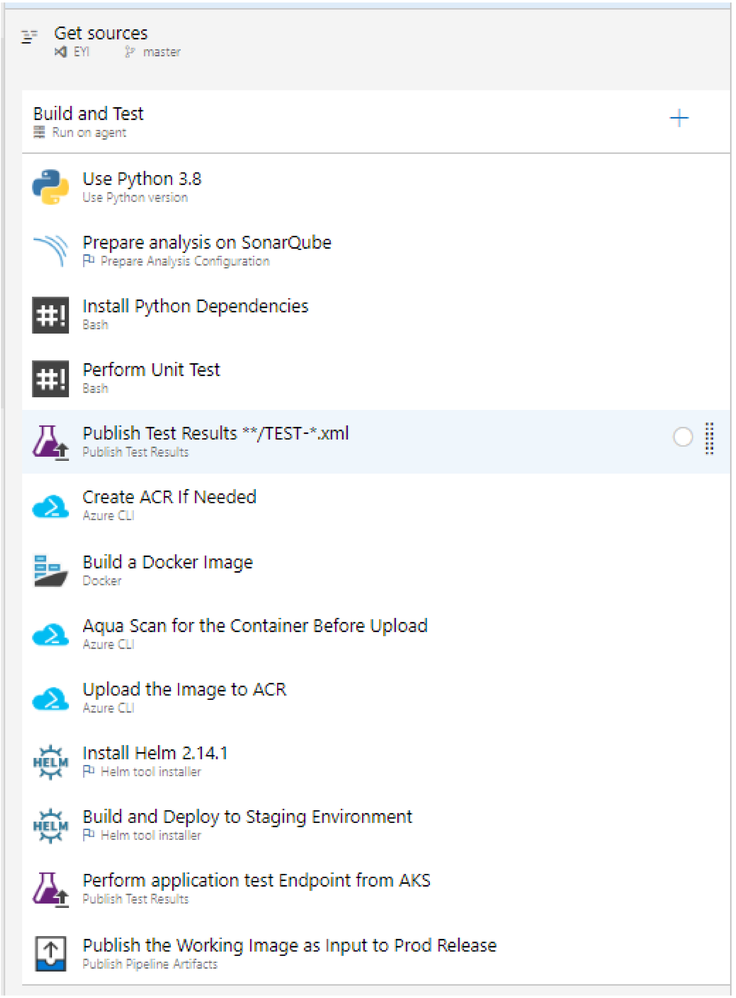
DEVOPS-USE CASE

- **E-Yacht-Insure (EYI) is an insurance startup company that provides insurance for the premium customer who owns Yacht.**

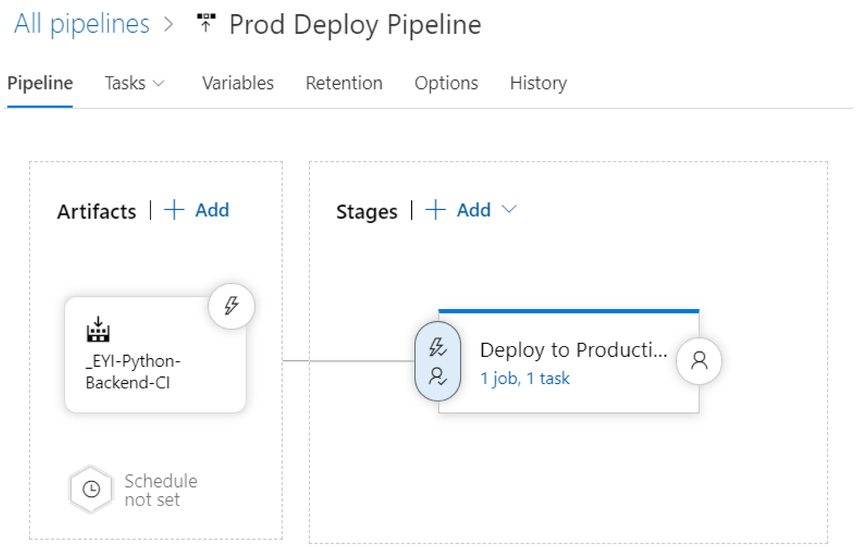
- EYI already builds Web and Mobile applications using Modern Cloud Native Architecture and Deployed n AKS. CTO instructs the architects to build a backend application that provides the same level of **Cloud interoperability** as the Frontend. They want to leverage Back-end developers currently using Python applications.

- CTO asked DevOps Team to make sure **applications need to deploy multiple times in production with zero downtime, are fully tested, and secured.**

Azure DevOps - Reference Architecture - Microservices WebApp



Continuous Integration + Testing.



Continuous Deployment

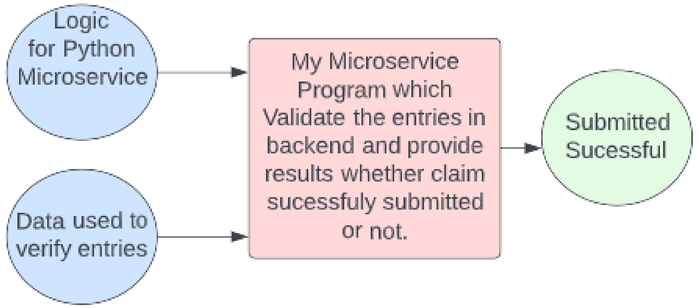
MLOPS-USE CASE

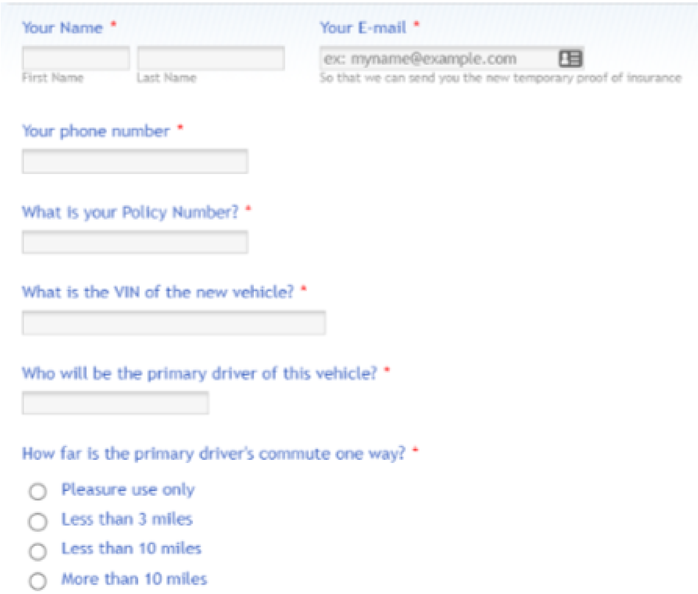
- Since we have HNI customers, They want to provide added value service by predicting the probability of insurance claim every year and charging accordingly.

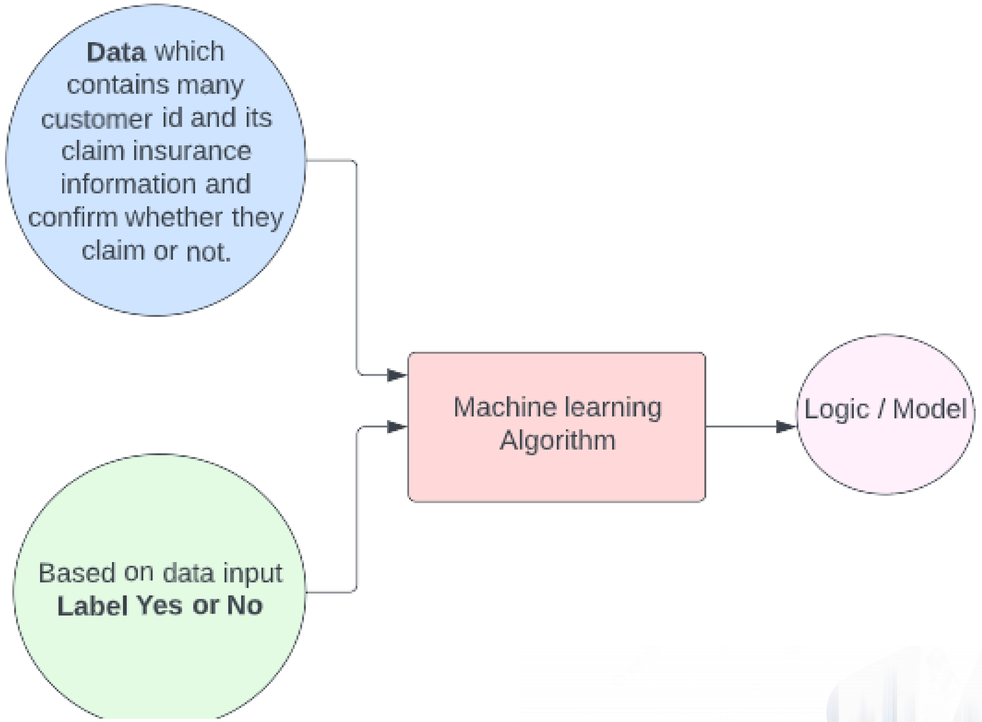
- EYI **Data Engineer** collects the data based on a customer insurance claim input and performed the data processing/ **feature engineering** pipeline and stores the data in AZ Datalake.

- **Chief Data Scientist and ML Engineers build a model and want to follow DevOps practice for Data processing and deploy their Model .**

Machine Learning 101

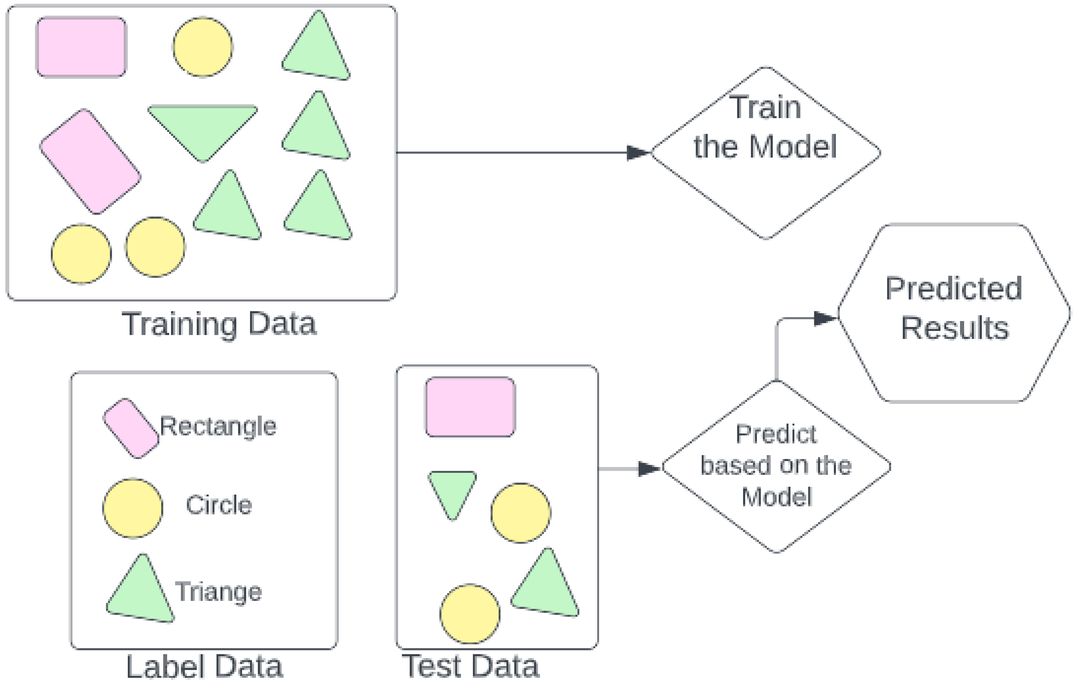






Machine Learning 101

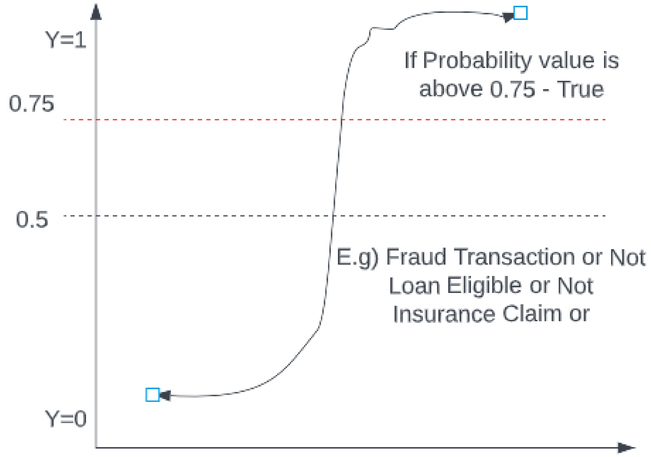
SUPERVISED LEARNING



CLASSIFICATION

LINEAR REGRESSION

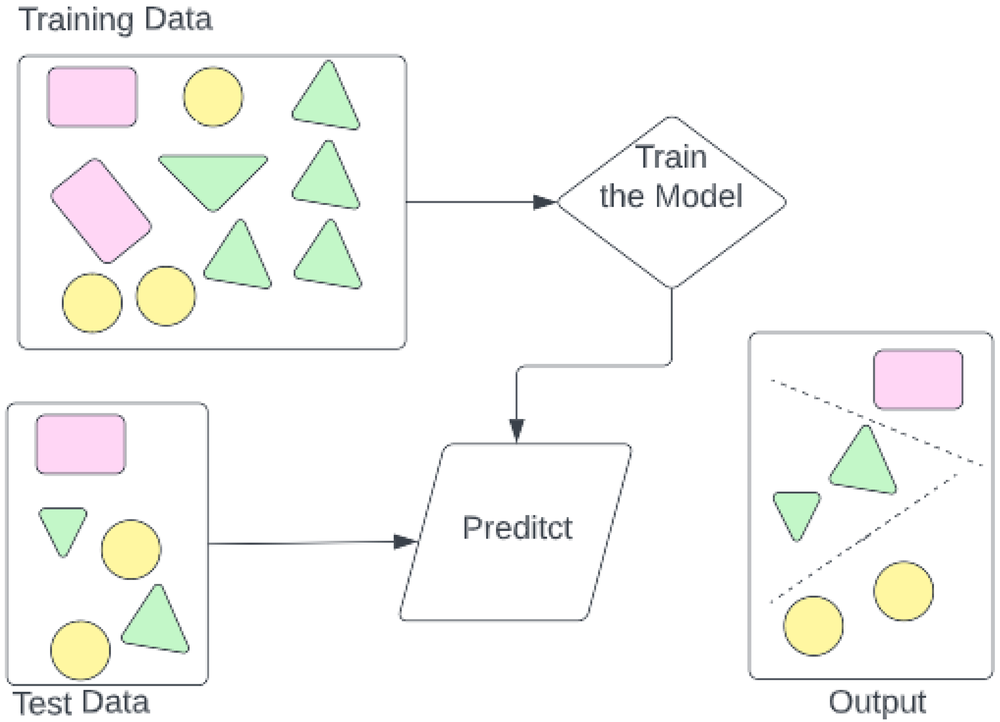
LOGISTIC REGRESSION



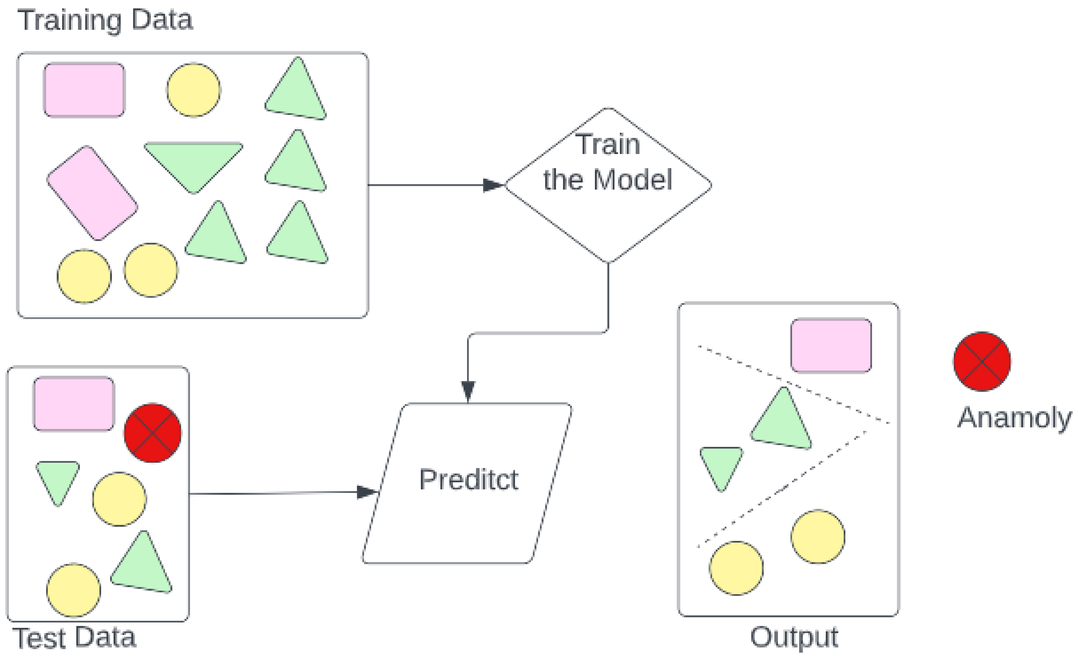
REGRESSION

Machine Learning 101

UNSUPERVISED LEARNING



CLUSTERING

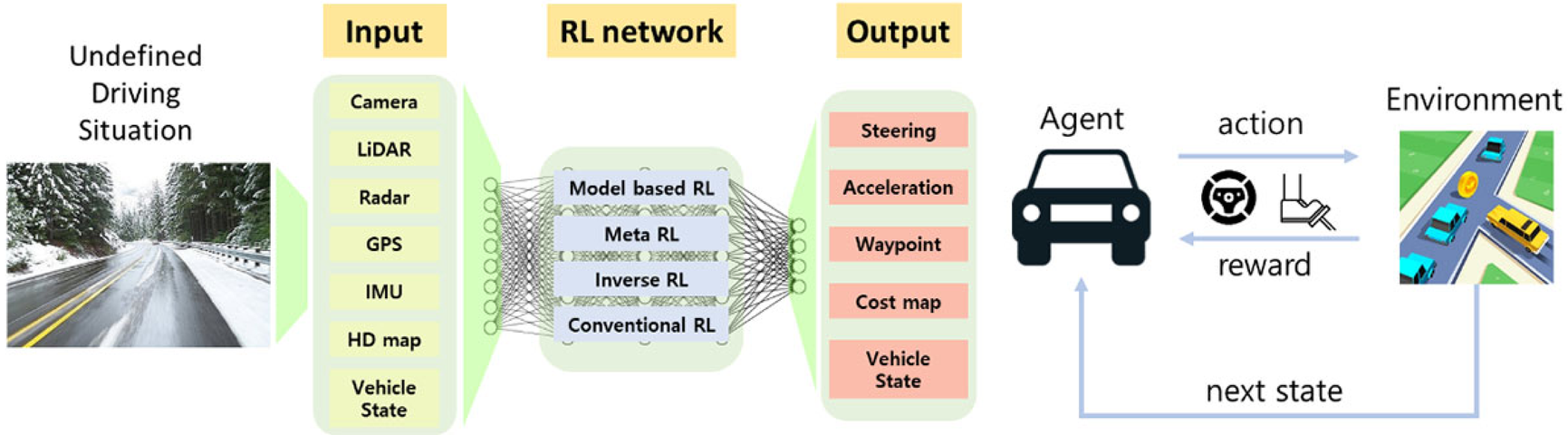


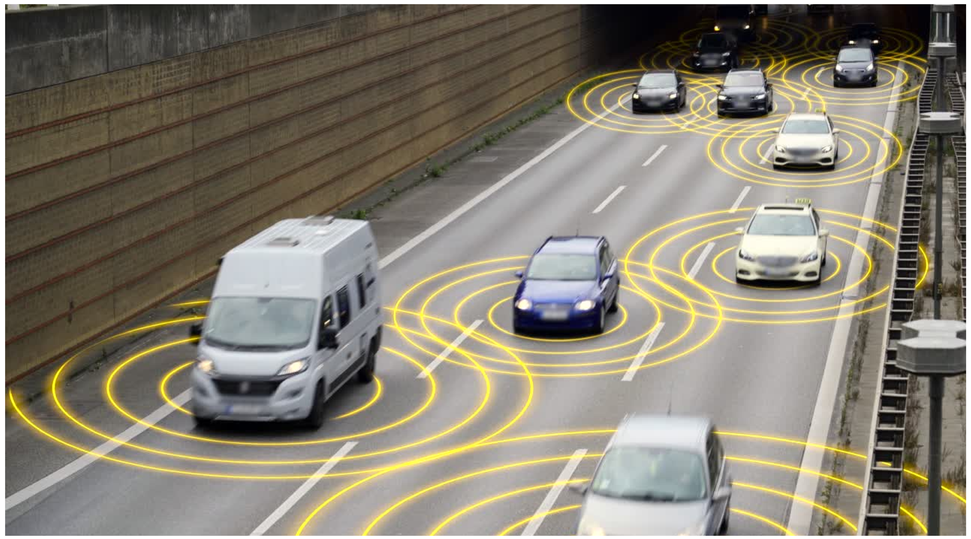
ANAMOLY DETECTION

Machine Learning 101

REINFORCEMENT LEARNING

Reward ~~ Action





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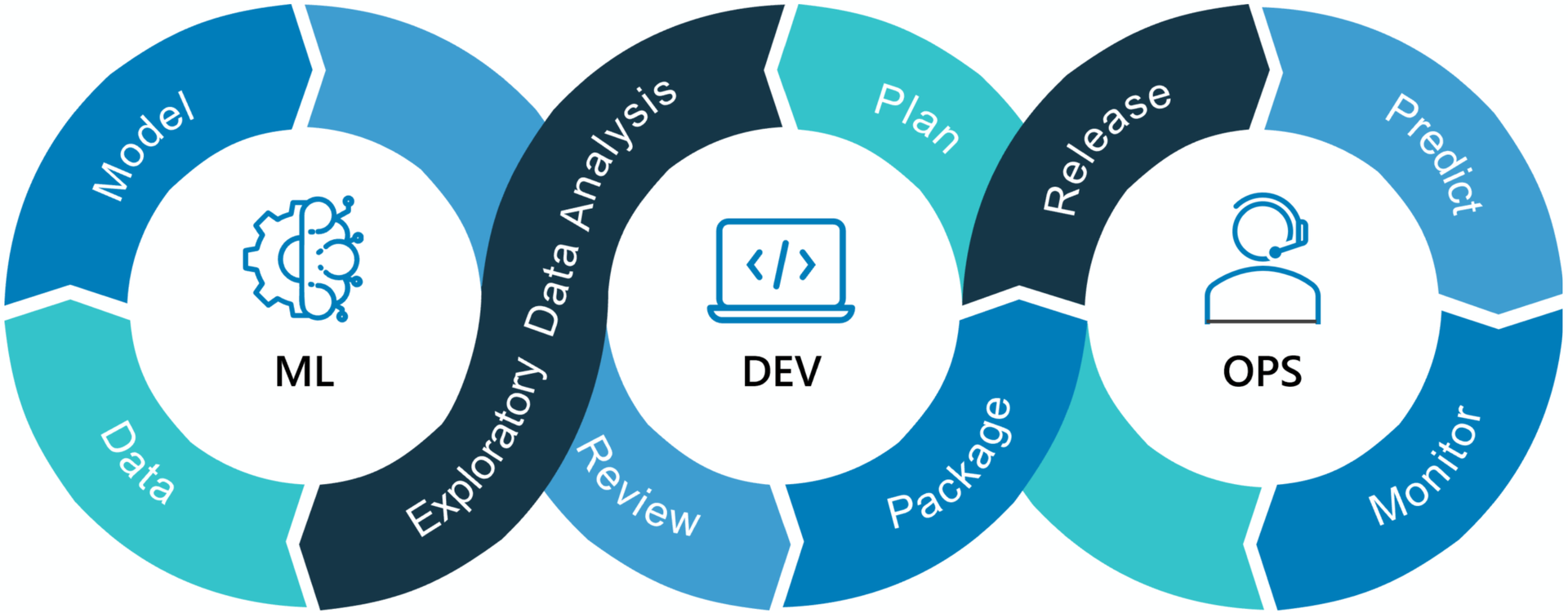
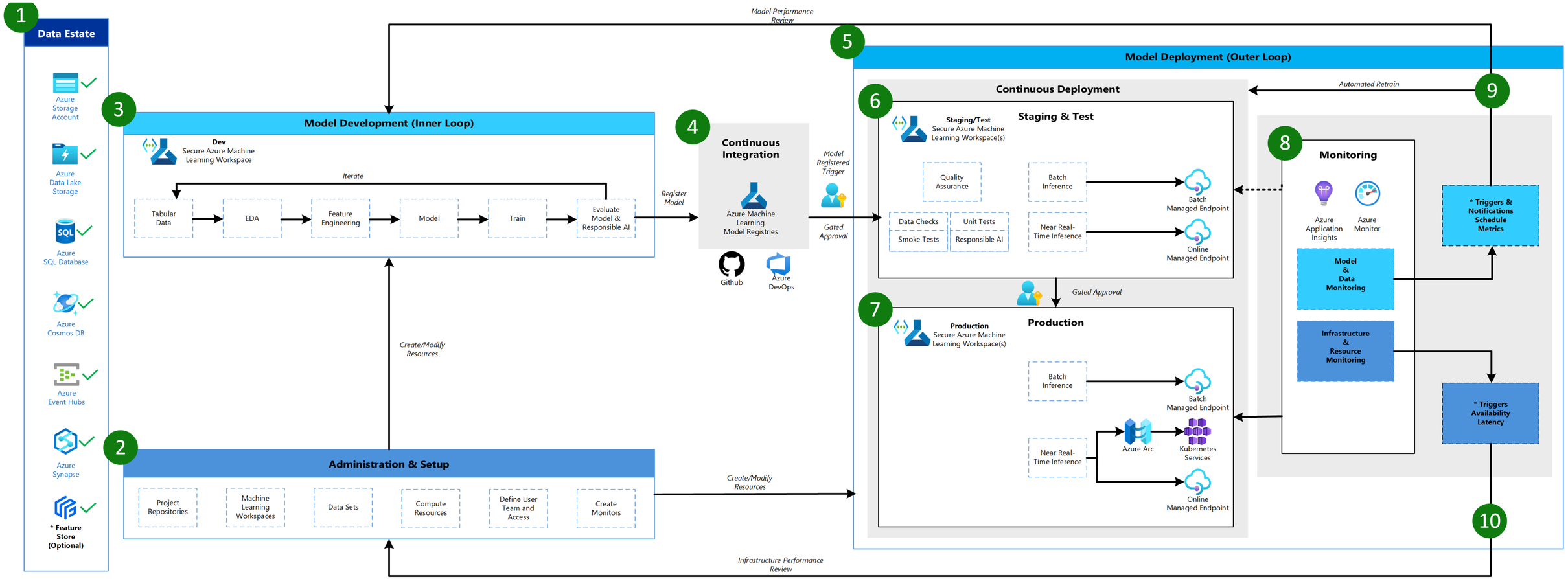
Machine Learning Operation 101



Azure MLOPS Reference Architecture

Ref: https://github.com/Azure/mlops-v2

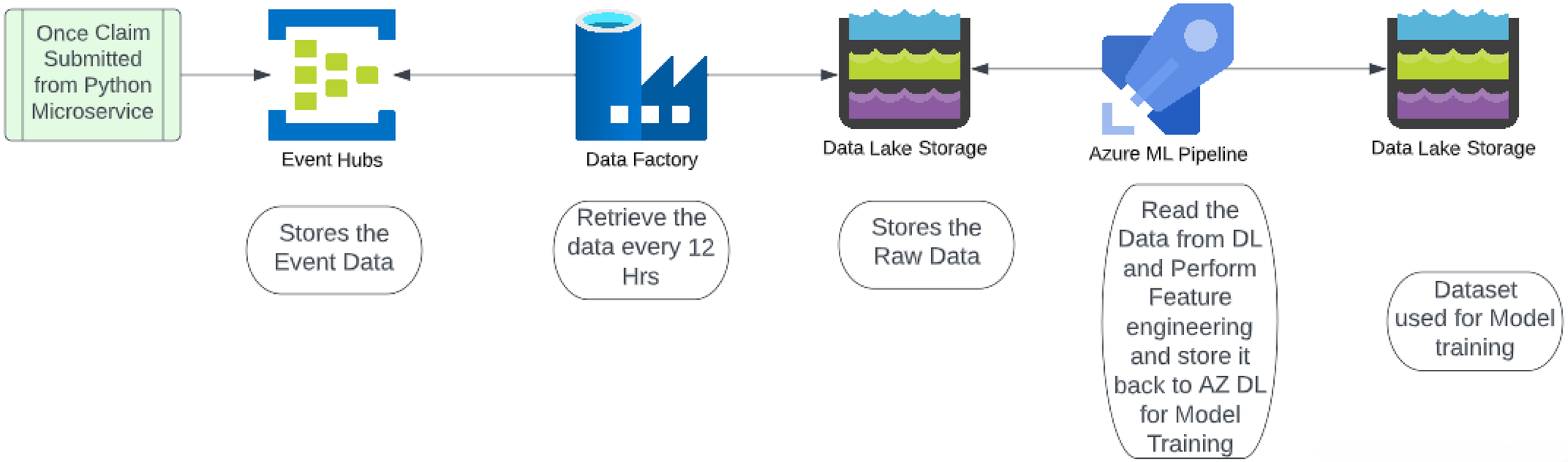


Legend:	Data Engineer	Data Scientist	ML Engineer	Infrastructure Team

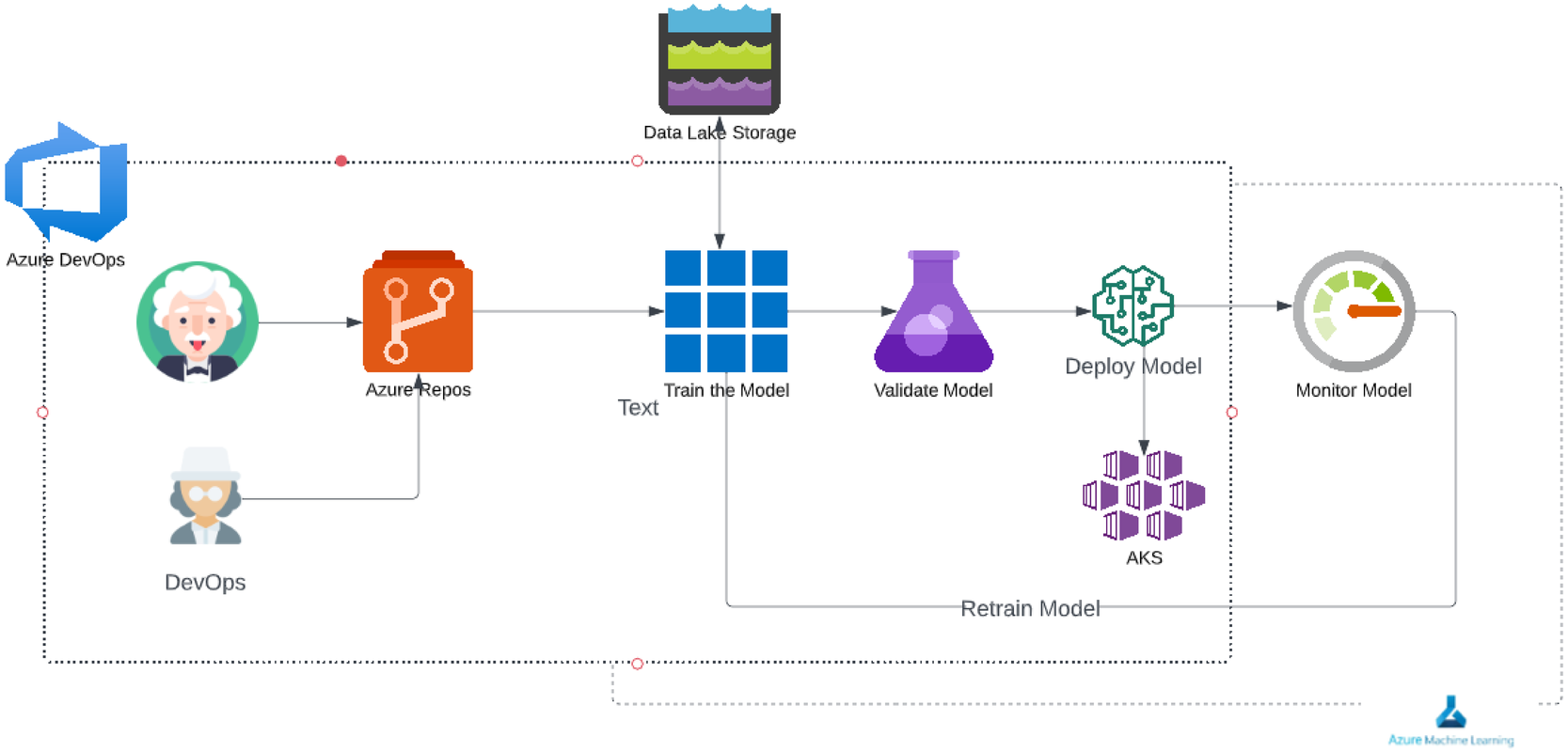
* Future Accelerator Implementation

✓ Recommended Practice

Data Processing



Simple MLOps - Demo of the Day



Questions?

https://forms.gle/nNBvtMJ8XvoaML1e7