

# Capstone Project Machine Learning Internship

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# Avanade Inc

Professional services company providing IT consulting  
and other services focused on the Microsoft platform.

Some services offered:

- Business Analytics
- Security Services
- Application Services
- cloud

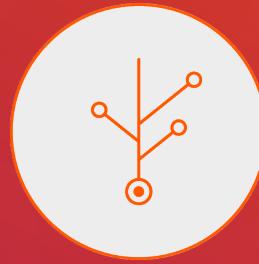
Founded: 2000  
Headquarters: Seattle, WA  
Founder: Microsoft and Accenture  
Number of Employees: 30K+

# Project Goals

Reduce voluntary attrition



Build and maintain a ML model that predicts who leaves in the next three months



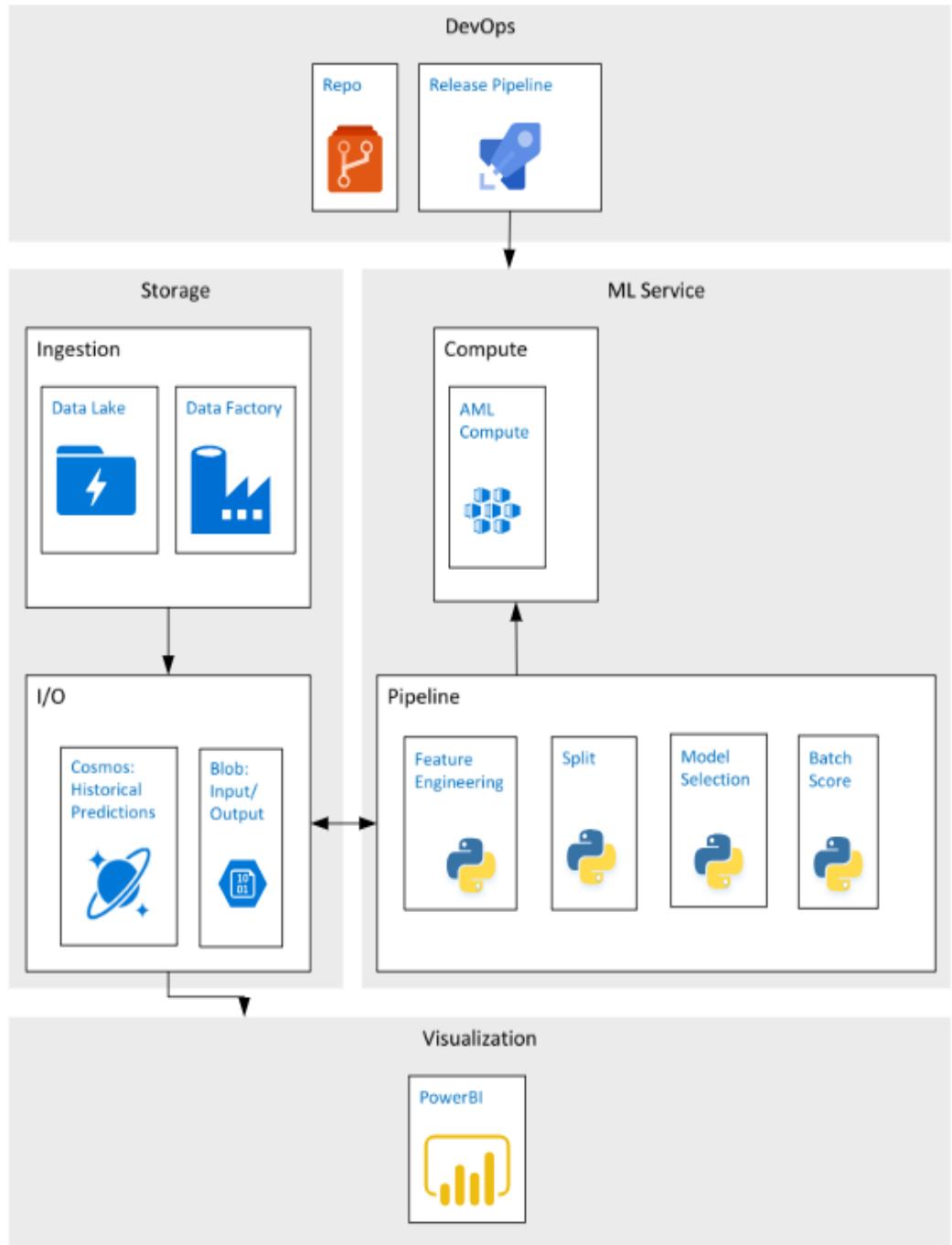
Provide a list of high-risk employees to HR



Partner with stakeholders to understand their needs and act on them



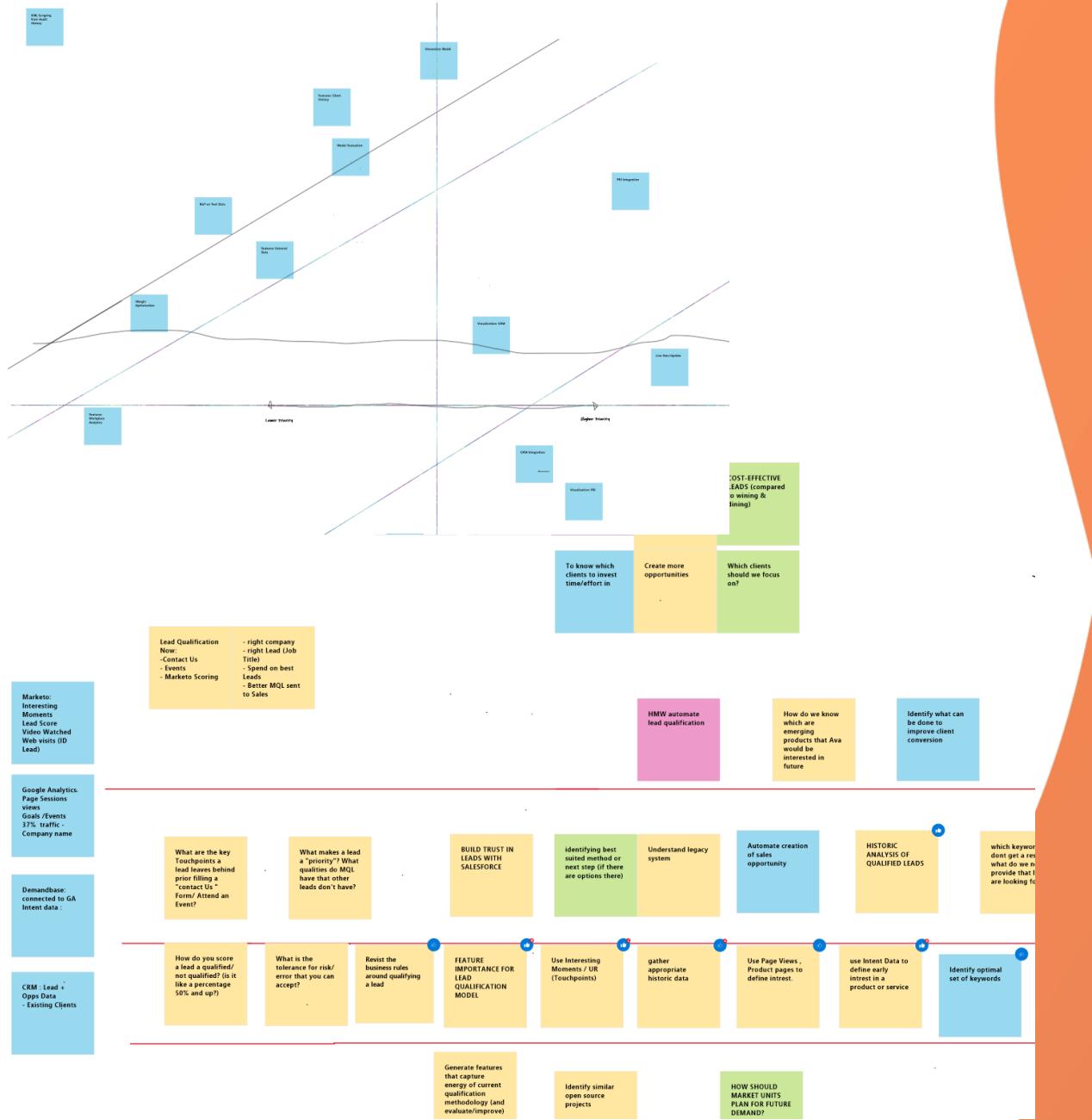
Deepen the company's capabilities by keeping great talent



# Project Architecture

Enables:

- CI/CD
- Future proofing
- Collaboration
- Parallel development



# Planning (Abstract Laddering)

# Implementation Plan Questions

1. How the business will change as a result of the model's predictions?
  2. How will success be measured?
  3. Who will use the predictions? Where will they consume the predictions?
  4. What data is required and available?
  5. Who is responsible for delivering?

Collapse all

New 7 h

In Progress 21 h

Blocked 13 h

Done

As a DS, I want to use open source dataset so that we can demo to clients

Aliue Sanneh 12 h

State In Progress

Create PowerBi report

12

Download IBM Attrition data

1

Data preprocessing --> to resemble our dataset

1

Create a munge script

1

port get\_data.py and train.py scripts

1

port batch\_scoring.py and get\_metrics.py scripts

1

create pipeline scripts and run hyperdrive

1

Create blob containers

1



As a DS I want to create a new datastore and related AML configurations

Aliue Sanneh

# Team Collaboration (Agile)

- Three-week sprints
- Azure DevOps
- Microsoft Teams
- Git

# Project Stack



# WHAT I HAVE LEARNED

- 
- A close-up photograph of a person's hand holding a camera lens. The lens is pointed towards a scenic landscape featuring a lake, mountains, and a blue sky with white clouds. The background is blurred.
- Teamwork and collaboration
  - Python Programming language
  - Machine Learning and Data science techniques
  - PowerBI visualization
  - Pair programming
  - Experience working in real world settings



# Related Coursework

- CSS 342/343 - Data structures & algorithms I & II
- CSS 360 - Software Engineering
- CSS 370 – Analysis & Design
- CSS 490 – Introduction to Machine Learning
- CSS 475 – Database Systems
- CSS 301 – Technical Writing

# Acknowledgement

Special thanks to:

- Faculty Advisor, Min Chen
- Avanade Inc
- Sponsor, Steve Nelson

# Q&A

Thank You!