Machine Learning Code Generator

The Problem:

Machine Learning is a kind of Artificial
Intelligence that is used to classify and
predict unknown data. It is a powerful and
versatile tool, but most people cannot write
Machine Learning code. Therefore the
majority of people cannot take advantage of
Machine Learning.

Impact:

- Help people from a broad range of disciplines to make new discoveries using their own data
- Increase access to Machine Learning technologies

GitHub link

https://github.com/kate-holdener/ml_code_generator

Client:

Possible clients include businesses without experienced programmers or data scientists, other educators, and researchers who want to analyze and identify trends in data. Or gain experience with Machine Learning



Developers:

Tyler McMahon tyler.mcmahon@slu.edu Kaitlyn Ashabranner kaitlyn.ashabranner@slu.edu John Coffman john.coffman@slu.edu Boran Li boran.li@slu.edu

Sprints:

In the future we plan to add a larger variety of models to choose from and further improve the application's integration with Google Colab

Sprint 1:

- Created documentation file for people new to this project
- Set up base code to create model

Sprint 2:

- · Created the front end for model training
- Wrote tests checking that all front-end routes worked properly (test_routes.py)
- Implemented linear regression model

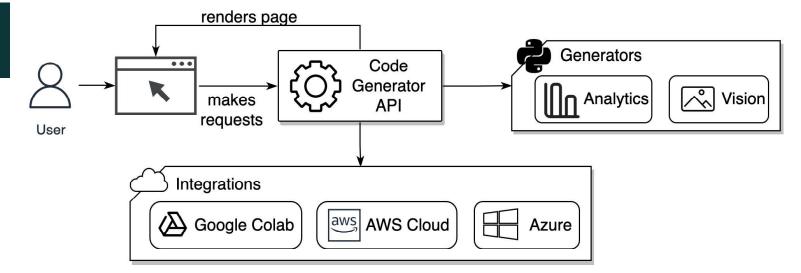
Sprint 4:

- Added linear model error score
- Added base logic for one-hot encoding
- Fixed bugs in flask app
- Worked on improving Google Drive integration

Sprint 3:

- Allowed users to login in with Google using Auth v2
- Allowed users to upload files directly to Google Drive
- Reordered screens and machine learning code

Architecture:



Code Generator API is used to generate the application that is visible to the user and is created using Flask. It also gets input from the user.

Code Generator API connects
to the <u>Generators</u> which are
written in Python and are
responsible for generating
code based on the user's
selections

Code Generator API links to <u>Integrations</u> which allows different services to interact with the app. We are in the process of integrating with Google Colab, but hope to also connect to AWS and Azure.