Machine Learning Code Generator

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.

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

ML Code Generator
Welcome to code generator
ML Code generator currently works on CSV data. Once you upload your data we can clean it for you and split it into training and testing sets. This is a work in progress, and more options will be available in the future. At any step, you can see the Python code we generated by using the "Show code" option in the navigation menu.

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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 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

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

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 Generators which are written in Python and are responsible for generating code based on the user's selections.

Code Generator API links to Integrations 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.