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*autoAI | January 24th, 2023*

Aut0ai

initialization

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# Introduction

## Overview

Provide a fully integrated application for using NLP and Image Generation APIs. Integrate with top models from reputable AI developers, making all model parameters accessible in a intuitive user interface. On top of this, will provide out-of-box automation scripts to help users generate batch responses from one or many models simultaneously and allow for users to submit their own scripts. Finally, we will provide a recommendation service to help users decide which model best fits their use case – and in certain cases – craft meaningful prompts. All models available to a user will be exposed in a single API, allowing for simplified use and easy integration with CDPs and CMSs.

## Target Audience

We will target a variety of users

1. Businesses: The reality of today’s tech landscape is that businesses are required to integrate with dozens of solutions to fulfill their marketing, accounting, logistics, and financial needs. With the proliferation of AI, business users need to integrate with these powerful tools. Our service will expose a company’s configured models in one endpoint to reduce complexity and security concerns.
2. Non-technical workers: Why was chatGPT the first model that gained wide-spread adoption across nearly every industry? A major factor was it required no technical knowledge. Unfortunately, many models are not feasible for use by non-technical users. We aim to simplify this by guiding users to appropriate models and providing a user interface to tune models to their use case.
3. Model Selection and Researchers: How can we find the best model for our use case? How do different models stack-up against each other? What parameter adjustments improve my output? This platform will be a hub to upload datasets and run them against multiple models in parallel. Users can then view the output or download the results for independent analysis.

## Technology

Front End:

* React Application
* \*GraphQL?\*
* Antd design library for tables and forms
* React Bootstrap for additional UI

Back End:

* Flask Application
* SQL
* Deployed as a microservice architecture

## Integrations

Our available integrations will be kept up to date with models that are in high-demand for (primarily) business use-cases. We will likely begin with supporting all of OpenAI’s available models and then move to other companies such as AI21 Labs, Cohere and Mindverse.

As of now, we will primarily focus on NLP models as these are business ready. Image generation models, while promising, still lack substantial business use cases. Use cases for audio generation will be explored as well.

# Road Map

## User Interface

We will not build authentication systems or a admin dashboard initially to accelerate the MVP timeline. Instead, we will focus on building intuitive forms for uploading data, configuring models, and initiating data processing. We will also focus on building fast, flexible, and simple tables for file exploration and viewing generated responses. Mac pledges to learn how to paginate tables to not wreck our API.

The Antd design library will be used for forms and tables.

React Bootstrap will be used to structure our webpages and design our landing page and recommendation service.

## Model Support

Start with OpenAI’s GPT-3 and CODEX model variations. If Mac is granted access to Chat GPT API, that will certainly be included as well. A great start would be to support all model parameters and the ability to train models.

As a group we will then identify subsequent companies to add support for and implement all of their available NLP models.

NOTE: success will really depend on the number of models that we support – otherwise we are no different than the OpenAI playground.

## API Development

API can be grouped and prioritized in the following order

1. Data transfer API: upload, view, download, delete data files –start with JSON and CSV
   1. For testing, this is maintained in SQL database
2. Model API: select provider, model, and parameters to run against a specified data set
   1. Update on progress in real time
   2. Create and store output file
3. Automate API: upload, view, delete and run python3 automation scripts
   1. Need to flesh this out more
4. Recommendation API
5. Master API
   1. Expose all available models for a user to perform any UI task via API calls
      1. Mac calls dibs on not building this
6. Authentication API
   1. Admin dashboard
      1. Add new models and parameters (probably JSON format)
      2. Add automation scripts (python3)
      3. Edit users and permissions
   2. User dashboard
      1. User roles (ability to add new model API keys, ability to train models, request limits)
7. Paypall API
   1. Da New Money Making Machine

Each of these APIs will likely become their own microservice in the deployed architecture.

## Automations

Initially, automations will

## Test Data

We want to test our process with as many use cases in mind as possible, including:

* Chat bot
* Email summary
* Academic article summarizations
* Writing articles
* Brain storming
* Code generation
* Q&A formats

Data that we use needs to be publicly available – Kaggle will likely be a great resource. Maybe include some webscraping technologies as well.

# Ownership

## Mac

UI implementation, front end API integration. Architect microservice/cloud deployment of product.

## Rib

Design and test initial automation scripts, hook up to API. Implement logging and status update features for all of our file processing.

## Mr. Ruchil

Backend endpoint development, database management – focus on file and settings updates.