

## **Project Proposal: A Deep Dive into OpenAI**

**Vision Statement:** I am going to build an application that uses the OpenAI platform/framework to fetch news articles on publicly traded companies, feed them into the AI for analysis, and output a sentiment (buy, sell, hold). By building this project I will be able to gain key experience and insight into OpenAI, AGI, and APIs that will serve me for years to come as these tools and softwares become more and more prevalent in our day to day.

**Motivation:** This project is important to me because this project idea is what first put me on the path of software engineering and development. A few years ago now when I was a stockbroker reading dozens of articles a day trying to get a gauge of public sentiment for the companies that I was placing trades on I thought to myself, "It can't be that hard to just code a simple program that could scrape a news article from the web, keyword search for relevant information and provide a sentiment." This idea led me to self teaching myself how to code and algo-trading which evolved into a career change to Software Engineering. To build this app will allow me to not only get experience with relevant software but also close the loop on a project idea I've had an urge to do for a long time.

### **Specific and measurable goals:**

- Learn how to use OpenAI's development tools
- Become more proficient with web/data scraping
- Become more proficient with APIs
- Have the app deployed/accessible via a website or app so that I can showcase during interviews.

### **Risks to project completion:**

1. Never worked with OpenAI Playground
2. Limited experience working with APIs
3. Limited experience web scraping
  - a. Unsure if it is possible to actively scrape new articles as they become available or if I need to focus more on
4. Accuracy of the AI's assessment of sentiment
  - a. I'll need to track and compare the sentiment from the articles and whether they were an accurate assessment
5. Even if accurate, stocks can move a different direction than expected.

### **Mitigation of risks:**

1. Though I haven't worked with it before, OpenAI has been around for a while now and there are already many tutorials and guides for how to use and build projects with it so I'll follow a guide/tutorial as a reference to avoid getting stuck.

2. I've worked with a financial API in the past and am familiar with using API keys but haven't touched them in a while. I will review my old project for reference as well as tutorials and online guidebooks.
3. My first introduction to web scraping was last semester in the Software Dev. Tools class so I'll reference those guides which I saved, review the final project that we used for web scraping recipes, and follow guides.
4. Implement a data tracker to keep track of whether the AI understood the article by manually reading and seeing if I also came to the same conclusion. I could also try feeding it the same article and tracking if it consistently has the same determination.
5. I'll need to keep track of the AI's output with the current stock price and compare it overtime to see if it has the same output. To keep this process simple and accurate I will choose a tight and diverse list of companies to limit my tracking (5-10).

**Project Assessment Points:** The goal of the project is to produce a visually appealing and working app that I can showcase during interviews and on my portfolio website. The following will determine if that has been achieved.

- The OpenAI app can be fed information (news article or text), identify the company that the article is talking about, provide a short summary of key points, and (most importantly) provide an accurate sentiment.
- The app is visually pleasing to look at on both web and mobile and is easy to use.
- The web scraping feature is able to scrape the relevant text from a news website to be fed to the AI.
  - Perform this if given a specific article link.
  - Perform this on it's own if given a company name or ticker (search for article itself)
- Track accuracy over time. In order to determine if this app could be used over time to make real financial decisions, I'd like to implement a tracker that would keep track of the time of the article paired with the stock price at the time of the post and then record the stock price after some time passes (day, week, etc.). Then compare this price change with the AI's assessment for sentiment on whether to purchase, sell, or hold the shares.

**Project Portfolio Link:** <https://github.com/gr8tscott/gr8tscott.github.io.git>