

Capstone Project Lightning Talk



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Ideas

1. Fear and Greed Index (For Investors)
2. Video and Text Summarizer (For Students)
3. Automated Essay Grader (For Teachers)

Idea 1

Fear and Greed Index

For Investors

Problem Statement

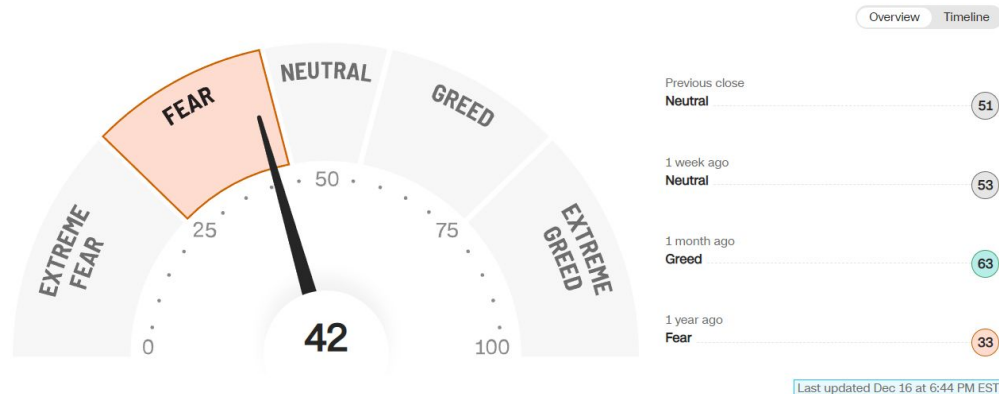
Investors and Traders want to know the general sentiment of the market. The most dominant product on the market only uses **Technical** and **Fundamental** Analysis.

I wish to include **Sentiment** Analysis into the mix.

Fear & Greed Index

What emotion is driving the market now?

[Learn more about the index](#)



Who is my audience? Why would they care?

Sentiment moved the market a lot in recent times, for example the 'Reddit Traders' who moved Gamestop and AMC stock prices strongly.

Institutions would want to know all this information in a **timely manner** (ie. not lagging).

What is my success metric?

I need to use hindsight and plot the fear-greed index against the actual index price (QQQ/SPY) at that point.

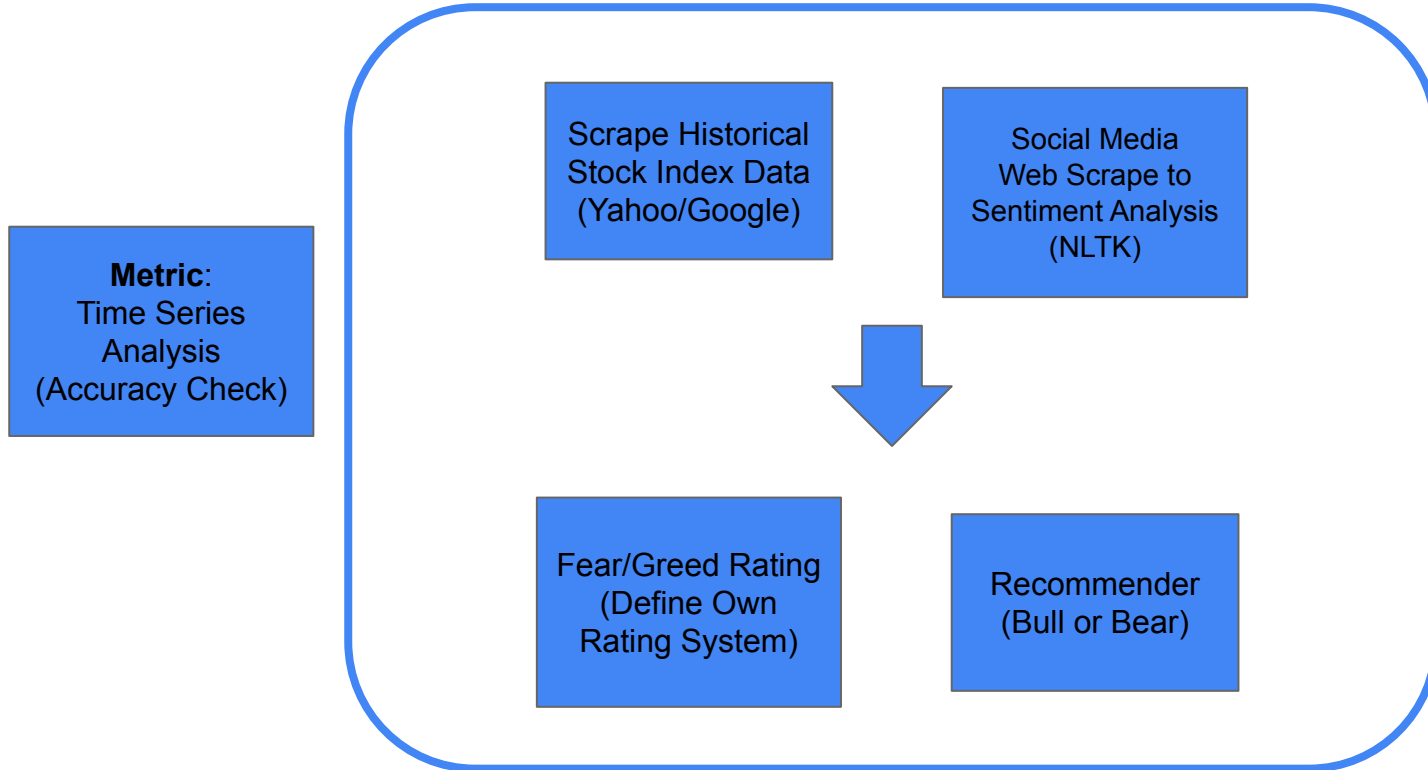
Use **time-series analysis** to check if the predictions are accurate historically.

What is my data source?

1. Scrape historical index prices via Yahoo Finance or Google Finance
2. Scrape past publicly available Reddit/Twitter posts

Project Architecture

GUI



What are potential challenges?

- Very demanding
- A GUI will be ideal for this product
- To prevent lag in predictions, it needs to update regularly, which is computationally challenging

Idea 2

Video and Text

Summarizer



For Students

Problem Statement

Students struggle with a lack of time when it comes to reading long articles or watching videos. I wish to help reduce the time it takes to summarise said articles/videos.

Input

**YouTube URL
Article URL
Readings PDF**

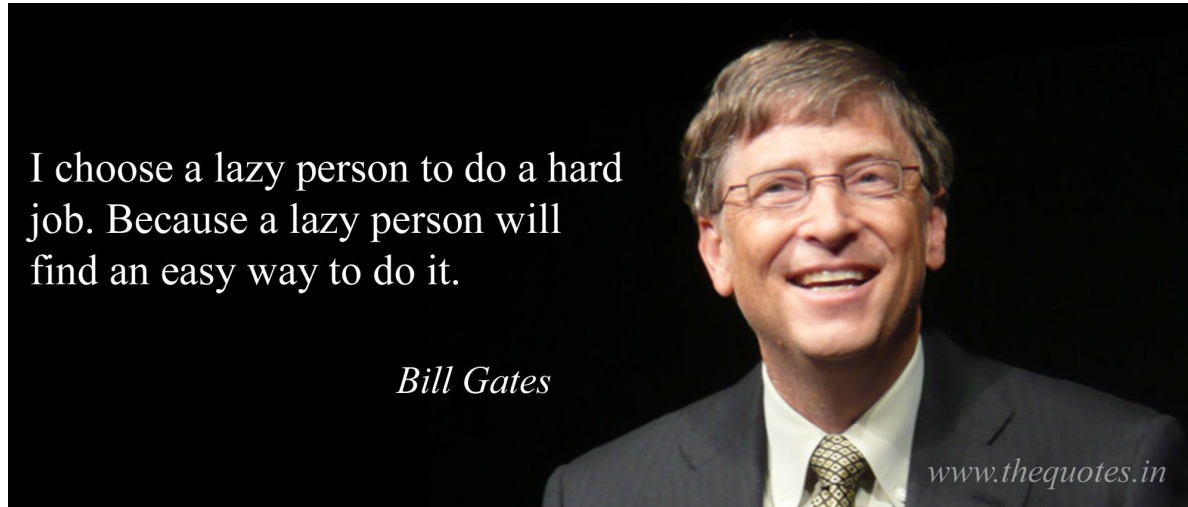


Output

**Summary in Text
Format**

Who is my audience? Why would they care?

As mentioned, students will be my target audience. Broadly speaking my target audience will be anyone who needs to have a **quick** and **concise** summary of any video/article.



What is my success metric?

Implementation to a wider audience will be challenging given the scale and time constraints. In an ideal setting I would introduce this to a large sample and get their feedback on **effectiveness of summary**.

My success metric will be **speed** in handling large volumes of summarizing.

What is my data source?

Topical Web Scrape

basics of economics

Intro to Economics: Crash Course Econ #1
6.7M views • 7 years ago
CrashCourse
In which Jacob Clifford and Adriene Hill launch a brand new Crash Course on Economics! So, what is economics? Good question ...
CC
What Is Economics 5 moments

Basic Concepts of Economics - Needs, Wants, Demand, Supply, Market, Utility, Price, Value, GDP, GNP
631K views • 2 years ago
Academic Gain Tutorials
This video covers the detailed discussion on the Basic Concepts of Economics. After this class, we will have generated brief idea ...
Basic Concepts of Economics | Terms we learnt under Demand & Supply | What is Market? | ... 13 moments

Intro to Economics
Khan Academy
Learning Objectives Learning Objectives 1. How the scarcity of economic resources leads to tradeoffs. 2. How to use the concept of comparative advantage to demonstrate the potential for gains from trade. 3. How to use the ...
Learning playlist
31 videos

Google introduction to economics

<https://www.encyclopedia.com > finance > introduction...>
Introduction: What Is Economics? | Encyclopedia.com
Economics is a social science devoted to the study of how people and societies get what they need and want. Or, in more formal language, **economics** is the study ...

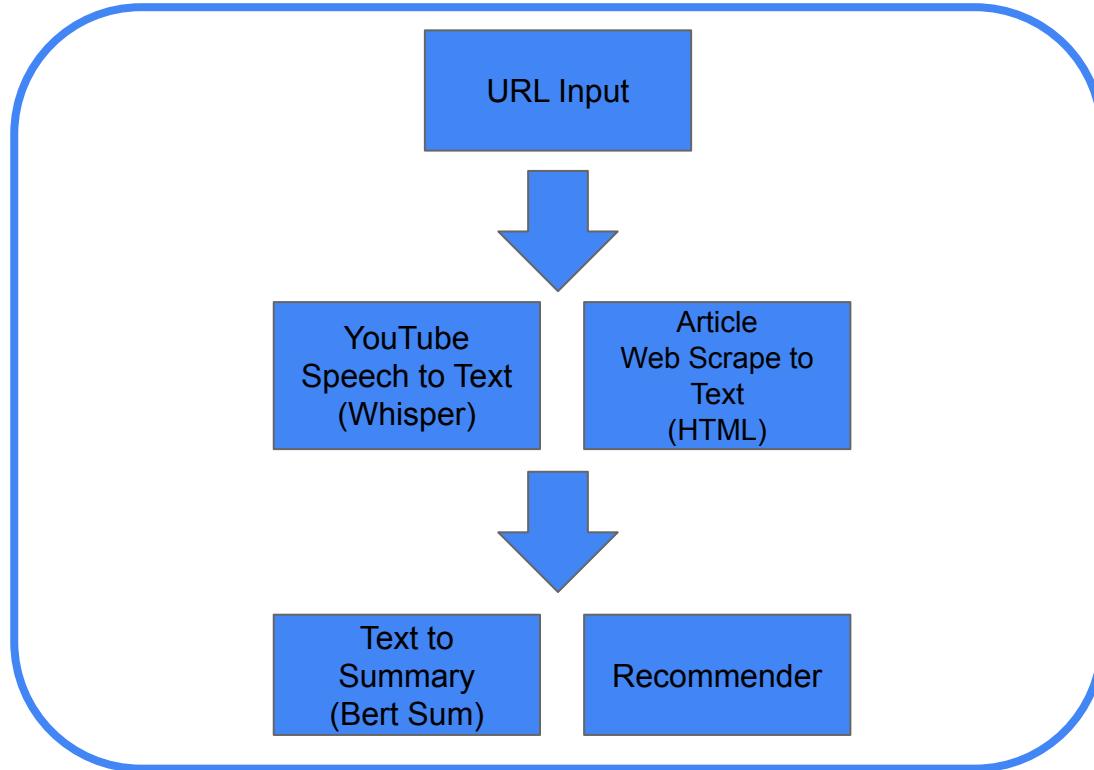
<https://openstax.org > principles-economics-2e > pages>
Ch. 1 Introduction - Principles of Economics 2e | OpenStax
Oct 11, 2560 BE — What Is **Economics**, and Why Is It Important? Microeconomics and Macroeconomics; How **Economists** Use Theories and Models to Understand **Economic** ...

<https://rlacollge.edu.in > Introduction-to-Economics | PDF>
INTRODUCTION TO ECONOMICS!!!! - the RLA College
INTRODUCTION TO. ECONOMICS. Choices, Choices, Choices, . . . **Economics** – the study of how individuals ... **ECONOMICS: 5 Economic.** Questions.
65 pages

<https://www.london.ac.uk > Course Finder>
Introduction to economics EC1002 | University of London
This course will **introduce** you to the fundamentals of **economic** analysis and reasoning. It is the course upon which subsequent, more specialised **economics** ...

Project Architecture

GUI



What are potential challenges?

- Too ambitious?
- Not technically a “data science” project (one degree removed)
- A lot of new things to learn

Is this a reasonable project given the time constraints?

Should be can

I have completed the basic summarizer.

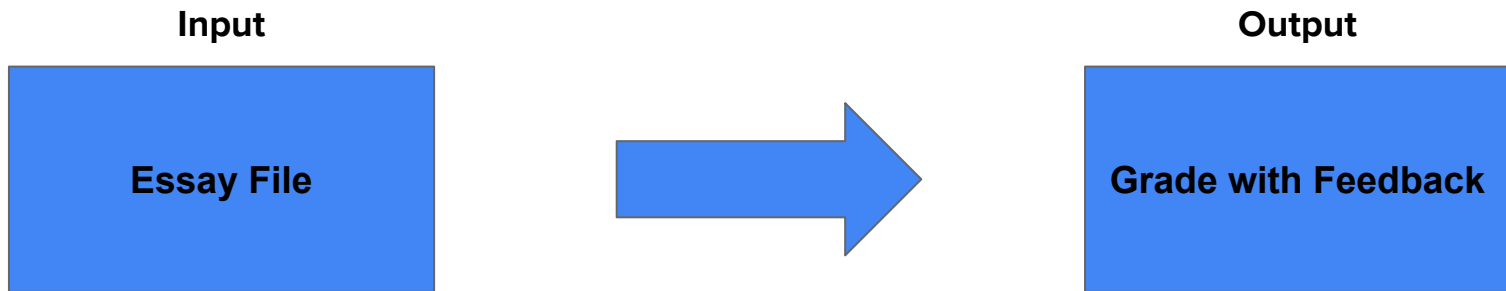
Idea 3

Automated Essay Grader

For Teachers

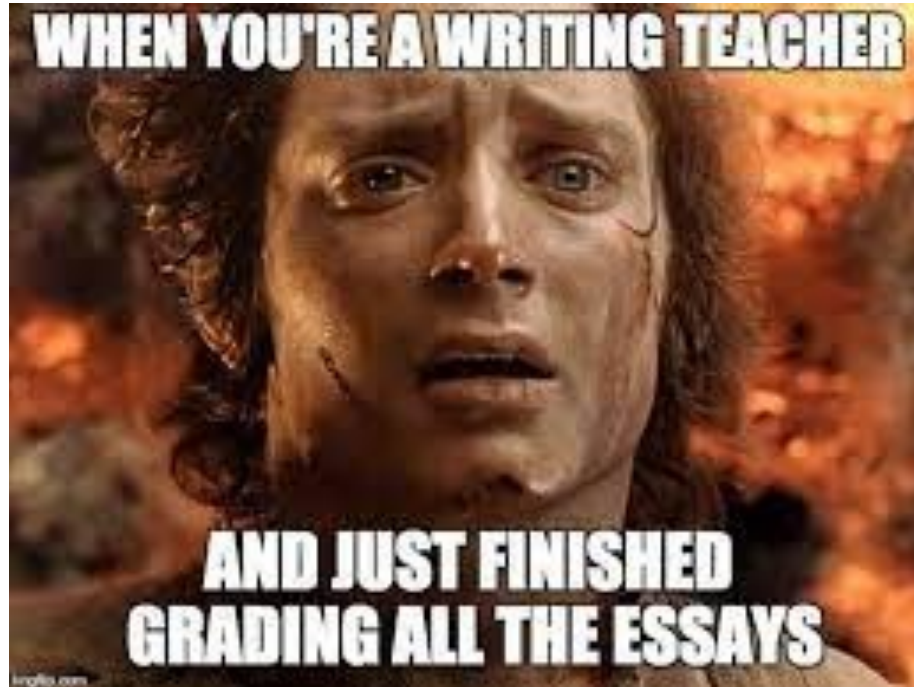
Problem Statement

Marking essays is a pain in the ---. I wish to make this process **faster**.



Who is my audience? Why would they care?

Teachers are my target audience. They would care.




What is my success metric?

Accuracy score is important.

What is my data source?

Kaggle

 Featured Prediction Competition

The Hewlett Foundation: Automated Essay Scoring

Develop an automated scoring algorithm for student-written essays.

153 teams · 11 years ago

\$100,000
Prize Money

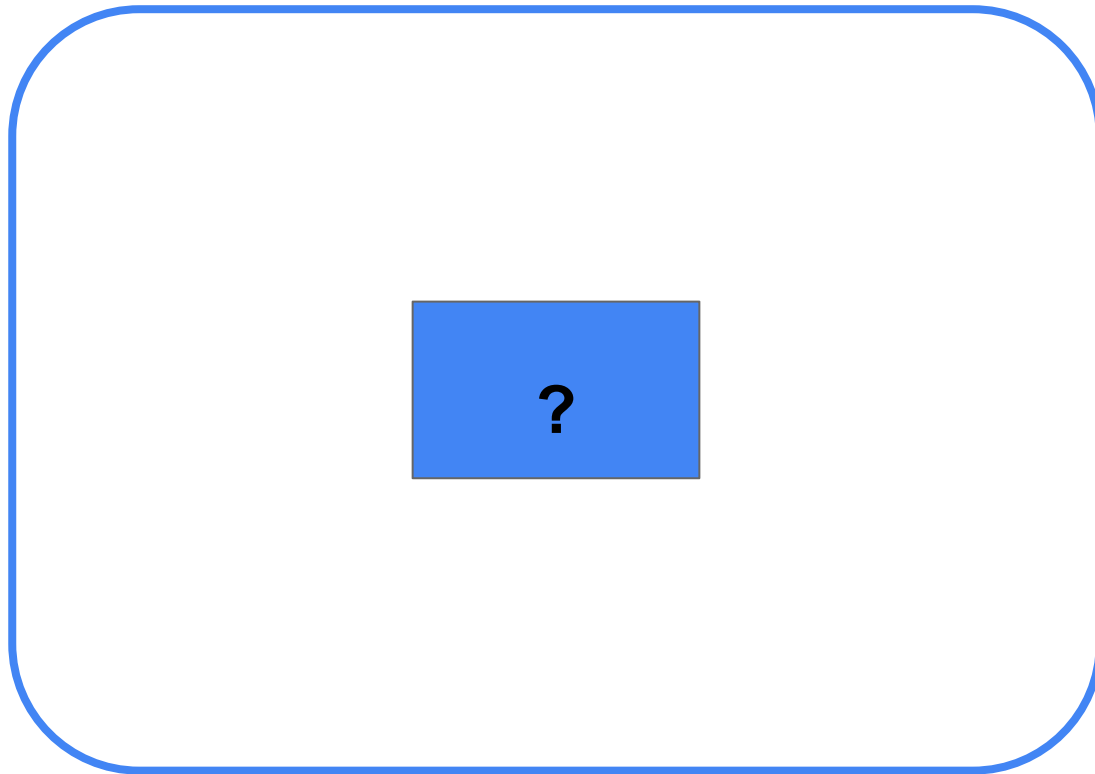
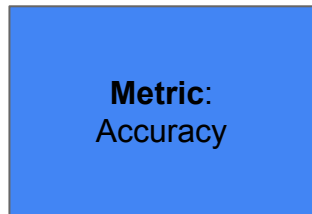
[Overview](#) [Data](#) [Code](#) [Discussion](#) [Leaderboard](#) [Rules](#) [...](#)

Overview

Description	The William and Flora Hewlett Foundation (Hewlett) is sponsoring the Automated Student Assessment Prize (ASAP). Hewlett is appealing to data scientists and machine learning specialists to help solve an important social problem. We need fast, effective and affordable solutions for automated grading of student-written essays.
Background	
Evaluation	Hewlett is sponsoring the following prizes:
Submission-Instructions	<ul style="list-style-type: none">• \$60,000: 1 place• \$30,000: 2 place• \$10,000: 3 place
Timeline	
Help	You are provided access to hand scored essays, so that you can build, train and test scoring engines against a wide field of competitors. Your success depends upon how closely you can deliver scores to those of human expert graders. While we believe that these financial incentives are important, we also intend to introduce top performers both to leading vendors in the industry and/or an established base of interested buyers. Hewlett is opening the field of automated student assessment to you. We want to induce a breakthrough that is both personally satisfying and game-changing for improving public education.
Team	

Project Architecture

GUI?



What are potential challenges?

- I have no idea how to start this.

Is this a reasonable project given the time constraints?

This is a very challenging idea.

I Choose

Project 2 - Video and Text Summarizer for Students



Thank you :)