

Mahesh Natamai [Email](#) | [GitHub](#) | [LinkedIn](#) | [Portfolio](#)

High school junior self-learning **software engineering**, **machine learning**, and **data science**, with an affinity for **finance** and **investing**.

EDUCATION

School Of Science And Engineering, Dallas, TX

2018 - 2022: Weighted GPA: **4.56**, Unweighted GPA: **3.85**, Cumulative GPA: **96.13**, AP Classes: **9**

ORGANIZATIONS

Iron Reign Robotics — *Dec 2019 - Present*: Lead Programmer (Java)

- Lead programmer / java developer for the FTC Robotics Team Iron Reign based in Dallas, TX that has attended the FTC World Championship in Houston, TX three years in a row.
- Developed autonomous programs and computer vision pipelines with OpenCV using Java.

National Honor Society (NHS) — *Nov 2019 - Present*: Member

Boy Scouts Of America (BSA) — *Jun 2016 - Present*: Scribe, Historian

PROJECTS *(Other projects listed on Github and Portfolio)*

Oasis Investment Club — *May 2019 - Present*: Cofounder, Machine Learning / Software Developer

- Co-founded the oasis investment club to educate members about finance, employing a variety of strategies to ensure maximum growth
- Used software to optimize portfolio with PyPortfolioOpt, specifically the efficient frontier and black-litterman allocation models, and to predict stock price using an LSTM recurrent neural network.
- Stock predictions generated in Flask REST API and stored in MongoDB database. Developed discord and slack chat bots as well as a website built with React to interface with backend API to retrieve stock predictions, update predictions, view predictions, and create predictions, as well as generate optimized portfolios using PyPortfolioOpt. Authentication on React website done using JWT, with role-based authorization implemented to approve signup requests with admin permissions and secure API endpoints.

LyricNet — *Machine Learning Web App*: [Website](#) | [GitHub](#) | [Devpost](#)

- Architected as a web app to showcase use cases of machine learning in the music industry for song lyrics generation (using markov chain and LSTM), song lyric autocompletion (using markov chain and GRU), and question answering (using BERT) for the def hacks 2020 hackathon
- Built using Flask backend, Tensorflow for machine learning, React frontend, and Google Cloud Platform hosting

The Dogs Of Dalal Street — *Podcast*: [Spotify](#) | [Youtube](#) | [Anchor.fm](#) | [Instagram](#) | [Facebook](#)

- A podcast hosted by Myself, Rutvij Thakkar, Harish Jai Ganesh, and Raghav Gangatirkar, where we discuss the state of the current American economy, macroeconomic trends, and other finance related topics.

SKILLS

PROGRAMMING LANGUAGES

Java
Python
JavaScript
TypeScript
HTML/CSS

FRAMEWORKS/ LIBRARIES

React
Redux
Angular
Flask
MongoDB
Mongoose
NodeJS
ExpressJS
Firebase
Bootstrap
OpenCV

DATA SCIENCE

Pandas
Numpy
Tensorflow (Keras)
Matplotlib

SOFTWARE TOOLS

Git/GitHub
Bash/Terminal
Jira (Agile/Scrum)
Heroku

EDITING TOOLS

Davinci Resolve 16
Audacity

AWARDS

Second Place at UTD
Fall High School
Programming Contest

AP Scholar With
Distinction 2020

Qualified For World
Championship FTC
Robotics Tournament
(Through Inspire And
Connect Awards)

- We educate our viewers on financial topics, such as Weighted Average Cost Of Capital (WACC), credit, and leverage in the first episode, just to name a few. We discuss other topics in the realm of finance and economics and cover the current situation regarding these topics to the best of our ability.

Silver Rank in USA
Computing Olympiad

Triple Spades — *Web App* [GitHub](#)

- Developed as an online card game web app built with Angular frontend, Flask backend, MongoDB database, and SocketIO for real-time gameplay. Authentication done using JWT through a REST API
- Allows 5 users to play the card game of triple spades realtime, keep track of scores using a scoreboard, and register / login
- Project involved collaboration of many members at once, making use of scrum methodology, agile development, and git for version control. Trained other members in the project on Angular and Python for development.

Quick Maths — *Web App*: [Website](#) | [GitHub](#)

- Developed as an education tool built with Angular frontend and Firebase backend
- Allows UIL Number Sense teams to practice tests and mental math skills online, monitor progress through a leaderboard, and vary level of difficulty
- Reduced paper waste produced by test printing, and allowed for personalized learning from any location

Portfolio - *Web App*: [Website](#) | [GitHub](#)

- Designed to showcase my projects, skills, resume, and other pieces of information. Front end built using React (HTML, CSS, Javascript), backend built with Node.JS and Express.
- Backend cron job runs every hour to query Github API and Youtube API to update a MongoDB database with my github information to keep track of current repositories, as well as my podcast youtube episodes. Database also contains my list of projects for easy management, allows for my downloadable resume, and sends emails using Nodemailer. Google analytics (page views, events) used.

Recipe Book - *Web App*: [Website](#) | [GitHub](#)

- Architected to keep track of user submitted recipes, including recipe titles, images, descriptions, and ingredients, as well as submit them to a shopping list.
- Authentication done using JWT provided by Firebase
- Developed with Angular frontend and Firebase backend

Game Bot - *Discord Bot*: [Invite Link](#) | [GitHub](#)

- Developed using NodeJS with the Discord.JS library to play various games including card games, tic-tac-toe, poker, and others