

# 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)*

**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.
- 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**.

**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

## 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

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

Silver Rank in USA Computing Olympiad

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