

# 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**

## 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

**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

## SKILLS

### PROGRAMMING LANGUAGES

Java  
Python  
JavaScript  
TypeScript  
HTML/CSS

### FRAMEWORKS/ LIBRARIES

React  
Redux  
Angular  
Flask  
MongoDB  
Mongoose  
NodeJS  
ExpressJS  
Bootstrap  
OpenCV

### DATA SCIENCE

Pandas  
Numpy  
Tensorflow (Keras)  
Matplotlib

### TOOLS

Git/GitHub  
Bash  
Jira (Agile/Scrum)  
Heroku

### 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

### **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 update a **MongoDB database** with my github information to keep track of current repositories. 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