Sai Manukonda

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Education

Rutgers University • New Brunswick, NJ Expected Graduation: May 2025

Bachelor of Science, Major - Computer Science, Minor - Mathematics

- **Computer Science Coursework:** Data Structures, Computer Architecture, Systems Programming, Discrete Structures $I - II$, Design and Analysis of Algorithms, Introduction to Artificial Intelligence
- **Mathematics Coursework:** Calculus $I - IV$, Linear Algebra, Linear Optimization, Intermediate Statistical Analysis
- **Activities:** Quantitative Finance Club, Rutgers Competitive Programming, Rutgers Undergraduate Mobile App Development

Skills

- **Languages:** Python, Java, R, HTML/CSS, JavaScript, MATLAB, C, C++
- **Frameworks:** React, React Native, Express and Node.js, Flask, Bootstrap
- **DevOps/DB:** SQL, MongoDB, Docker, GraphQL, Kubernetes
- **Machine Learning:** Numpy, Pandas, Matplotlib, TensorFlow, Pytorch, SciKit-Learn, Sentence Transformers, NLTK, Jupyter

Experience

Capital One – McLean, VA June 2024 – August 2024

Incoming Summer 2024 Software Engineer Intern

MathWorks – Natick, MA May 2023 – August 2023

Software Engineer Intern

- Developed a scalable, user-centric dashboard application using **React**, **Node** and **MySQL** in collaboration with the Industry Model Testing (IMT) team, integrating advanced data visualization for self-driving vehicle industry models.
- Engineered a **Convolutional Neural Network (CNN)** to enhance lane-changing decision-making in self-driving vehicles, involving preprocessing of diverse lane-changing scenarios.
- Achieved a **12% improvement** in decision-making accuracy for autonomous vehicles through the optimized CNN model, significantly enhancing safety and reliability in autonomous navigation systems.
- Managed tasks and sprints using JIRA, effectively applying **Agile** methodologies for streamlined project execution and team collaboration.

Quiddity Infotech – Little Elm, TX May 2022 – August 2022

Software Engineer Intern

- Built an internal HR platform using **React** and **Express**, with **GraphQL** to automate onboarding, interviewing, & communications processes.
- Utilized the **Microservice design pattern**, creating a microservice for each HR process and event bus for pub/sub inter-service communication.
- Dockerized the platform and deployed it on a Kubernetes cluster for smooth deployment across different environments.
- Successfully replaced external HR/Time tracking solutions, resulting in **annual cost savings of over $5000** in licensing fees.

Code Ninjas – Princeton, NJ September 2019 – January 2020

Coding Instructor

- Instructed 50+ students aged 7-14 in programming and robotics, fostering a challenging and collaborative learning environment.
- Adapted curriculum to cover game and website development using **JavaScript**, as well as **IOS app development**.

Projects

Emaily – Node.JS, Express, React.JS, MongoDB @Emaily

- Created a survey management system for companies and organizations to send out and view customer survey statistics.
- Incorporated Google OAuth for secure authentication through Mongoose.js.
- Integrated Stripe API for payment processing, with a 2-cent cost per email sent to the user/customer.

Anime Central – Flask, Beautiful Soup, Python, HTML/CSS/JS @Anime-Central

- Collected data on 3300 Anime titles from 1980 to 2021 using Wikipedia API, and stored information in a JSON file.
- Organized the Anime titles into categories such as genres, release year, and ratings, allowing users to view similar titles.
- Implemented a cookie session to store the user's watch history and preferred Anime genres.
- Built a recommendation system based on four metrics, including recently watched Anime, most liked genre, release year, and production studio.

Safe Search – Flask, HTML/CSS/JS, Bootstrap, Google Cloud @Safe-Search

- Developed a tool specifically to address the Covid pandemic, to determine safe times to visit a location.
- Utilized Google Places API to gather traffic data and information about the location entered by the user.
- Analyzed traffic data to create a list of safe time slots throughout the day and displayed to the user.

Mirror Dashboard – Python, HTML, google-cloud, raspberry-pi @MirrorDashboard

- Designed a solution to keep users updated on current events, even with limited network connectivity.
- Monitored internet access and periodically updated information from a Google Cloud Compute Engine.
- Extracted important content including first aid, weather, and breaking news from sources such as CNN.
- Automatically redirected users to the information site when connected to the Raspberry Pi Wi-Fi hotspot.