Satvik Reddy

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I am a software developer and High-schooler from the San Francisco Bay Area who has been programming for six years.

Education

Aragon High school

2020 – current

Skills

- Programming Languages: Python, Go, Typescript, Javascript, Java, C, C++, SQL
- Databases: PostgreSQL, MongoDB, SQLite
- Cloud/DevOps: AWS EC2, S3, RDS, Lightsail, Google Firebase, Docker, Git, Github
- Frameworks/Libraries: Flask, Express.js, React, Next.js, OpenGL
- Other technologies: REST APIs, Websockets, Nginx, Linux/Unix, RabbitMQ

Experience/Events

pSolv | Intern

June 2021 - July 2021

I worked as an intern at the big-data company pSolv last summer, tasked with implementing a third-party user management system. I worked with open-source software like Apache Syncope, as well as protocols such as **LDAP** and **Active Directory**. I wrote bindings for both a **CLI** and a **REST API** written in **Python** so users could manage third-party users.

FRC Robotics Team | Software Lead

August 2020 – Current

I have been an Aragon High School FRC Robotics Team member for about 2 years. I was a programmer during my freshmen year of high school and was the software lead during my sophomore year. I managed a team of twelve programmers, using **Java** and the WPILib library to program the Robot. We wrote software pertaining to **computer vision**, **motion planning**, as well as both **open and closed loop control** techniques. We also collaborate closely with a team of electrical engineers as a part of our work.

DVHacks 3 | Participant

March 2021 | Online

At the Third Dougherty Valley Hackathon, my team and I built an automatic music transcriber to help beginner music students learn music. Our solution allows users to upload music in the mp3 format to a

website, where it would get converted to the MIDI file format using a **Pytorch** based machine learning model and then saved as a PDF file in an **AWS S3** bucket.

HackDefy Hackathon | Participant

August 2020 | Online

At the HackDefy Hackathon, my team and I created a website that would help students with limited educational resources with spelling and handwriting. Our website used **Flask** webserver for the backend, and **JavaScript** and **CSS** for the frontend. We built and trained a machine learning model using **TensorFlow** to convert students' writing to text.

Projects

LCGE

C, OpenGL, 2D Graphics

LCGE is an open-source, lightweight 2D game engine written in C. I used the OpenGL graphics API to render 2D graphics. LCGE can create a window, maintain an FPS, render 2D rectangles, render 2D images, render 2D lines, get keyboard input, get mouse input, load fonts, and render text. LCGE is distributed as a shared library and is compatible with windows, macOS, and Linux. GitHub link: https://github.com/SatvikR/LCGE

Liveassist

Microservices, Go, Next.js, React, Typescript, WebSockets, RabbitMQ, PostreSQL, MongoDB

Liveassist is a knowledge-sharing platform that allows people to ask/answer questions over an easy-to-use live-messaging interface. The backend was written using a microservice architecture, with each service being deployed in a separate docker container. Each service has its own REST API written in go, and the services each communicate with each other using RabbitMQ. I built the live-messaging interface by writing a multithreaded WebSocket server in Go to handle recieving/broadcasting messages to active users. Messages are stored in a MongoDB database, while all user data is stored using PostgreSQL. I deployed the microservices and the databases to AWS EC2 using docker and Nginx to handle networking, and I deployed the Next.js site to Vercel. GitHub Link: https://github.com/SatvikR/liveassist

Homework Help

Node.js, Next.js, React, Typescript, REST, MongoDB, AWS S3

This project is a platform made for students to get help on homework and assignments. Students can share questions, answer questions, and give feedback. The backend is a REST API built with Node.js, Express.js, and Typescript. I used MongoDB to store data, and Redis to store JWT tokens. The frontend was built with React and Next.js. The server and the database were hosted on an AWS EC2 instance, the Next.js website was hosted on Vercel, and user-uploaded images were stored on AWS S3. GitHub Link: https://github.com/SatvikR/homework-help

More projects available on my GitHub