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 the last seven 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 integrating third-party Identity Management Systems. I worked with open-source Apache Syncope software, 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 freshman year of high school and I was the software lead during my sophomore year. I lead a team of twelve programmers to program the Robot using **Java** and the WPILib library. We wrote software pertaining to **computer vision**, **motion planning**, as well as both **open and closed loop control** techniques. We also collaborated 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 and 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 receiving/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 Next.js frontend 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 with 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 listed on my GitHub account