

SRAVANTHI SINHA

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EXPERIENCE

Jun 2022 - Present

Freelancer, Los Angeles, CA

Software Engineer

- Engineered a geospatial web platform for Norwegian genealogical research, funded by the Norwegian American Genealogical Center. Developed interactive visualization tools displaying historically accurate parish and county boundaries across Norway with custom filtering by jurisdictional hierarchy. Implemented a geocoding system enabling precise location of historical farms and properties by name, with automatic attribution to their respective parishes and counties. Used React for the frontend and ArcGIS JavaScript API to deliver responsive, high-performance map rendering and spatial queries.
- Architected and implemented a professional mental health platform for a California-based therapy practice specializing in Asian-American and BIPOC communities, now live at mindmatterscenter.com. Used React with Vite for optimized performance, implementing a component-based architecture with TailwindCSS for responsive design across all devices.
- Developed an application that parses expressions written in text to SQL expressions to further execute them on a database. Used Antlr, Typescript, Angular, and DuckDB.
- Developed an entire filtering module that can be customized by users for reporting in the client's data analytic product. Used Typescript, and Angular.

Jun 2016 - Aug 2016

NASA/SETI Institute, Mountain View, CA

Software Engineering Intern (Data Science)

- Worked on New Discoveries team which aimed to "Finding meteorites in the field using Deep Learning" utilizing pre-trained networks and Model Ensembling.
- Experimented with the traditional computer vision techniques like BLOB Detection and used SIFT features to find meteorites.
- Designed and developed a web-app to import, analyze and leverage data collected by the drone in the field capturing meteorite images.

Jun 2013 - Jan 2016

InRhythm Solutions Pvt Ltd., Hyderabad, India

Software Development Engineer

- Revamped the ETL process to increase the performance using SSIS tools by 96%.
- Designed and developed data ingestion and monitoring application in .NET
- Developed an Excel-VBA based interfaces for data analysis and visualization.

May 2014 - Oct 2014

Google Summer of Code/National Resource for Network Biology, Mountain View, CA (Remote)

Mentor

- Mentored an undergrad student in developing a BiomartConnect plugin for PathVisio which is used to visualize gene information from Ensembl Biomart. Was responsible for the code reviews, and helped the student finish the project successfully which allowed us to receive full funding from Google. The project was built using Swing GUI, OSGi Framework, Java, and SOAP based web service

May 2013 - Aug 2013

Google Summer of Code/National Resource for Network Biology, Mountain View, CA (Remote)

Software Development Engineering Intern

- Developed a WikiPathways client plugin which connects to the online pathway databases, WikiPathways, and allows users to search and browse pathways from PathVisio (a tool for pathway visualization and analysis).
- Used SOAP based web services, Swing GUI, OSGi Framework, Java and XML.

May 2012 - Oct 2012

National Resource for Network Biology, San Francisco, CA (Remote)

Software Development Engineering Intern

- Developed a validator plugin which is aimed at producing standard biological pathway diagrams in PathVisio. Used Swing GUI, OSGi Framework, Java, Schematron.
- Developed a Stoichiometry Plugin for Pathvisio which helps in producing a Stoichiometry Matrix for a standard biological experiment. Used Swing GUI, OSGi Framework, Java, SBGN-ML, and junit.

PROJECTS

Quizler

Spring 2024

- Engineered a web application called Quizler that harnesses AI to automatically generate quizzes from user-uploaded documents. The system architecture comprises a React frontend with TypeScript for enhanced type safety, while the backend is built using Flask. The application leverages OpenAI's GPT model to analyze documents and create tailored quizzes, with the entire stack containerized using Docker and Docker Compose for seamless deployment and scalability.

Safe neighborhood Housing Analysis

Spring 2021

- Analyzed the LAPD crime data to find the safest neighborhood and used current housing data from Zillow to evaluate what will it cost me to live there. Used Python, Pandas, Plotly, Jupyter.

Real time order delivery system

Fall 2021

- Designed and developed a real time order dispatch/pickup system that simulates the fulfillment of delivery orders for a kitchen. Built the system in pure Python utilizing multi-threading.

Web Stack Programming

Fall 2018

- Designed the core architecture and built a RESTful API access level management for recipes. All the features were implemented in pure Python 3.x and libraries without using any micro framework or any ORM.
- Developed a simple web app in React for photography portfolio using Amazon EC2 services.

System Programming & Algorithms

Spring 2017

- Implemented various utility programs which include *printf*, *ls*, *readelf*, *objdump*, *nm*, *getline*, *strace* and recreated the Shell (Unix style command line interpreter) in C language following the Linux Kernel coding style.

SKILLS

Technical Skills

- **Programming:** Python, TypeScript, JavaScript, C, Node, Java, SQL, C#.
- **Frameworks:** React, Angular 2+, TailWind, Flask, .NET, SCSS/SASS, Jest.
- **Tools/Other:** Pandas, scikit-learn, Docker, PyTorch, Postgres, DuckDB, MySQL.

EDUCATION

Jan 2016 - Mar 2018

Holberton School, San Francisco, CA

Full Stack Software Engineering

Related Coursework: Systems Engineering; Algorithms & Data Structures; Web Stack Programming

Sept 2009 - Jun 2013

Jawaharlal Nehru Technological University, Hyderabad, India GPA 3.9/4.0

Bachelor of Technology in Electronics & Communication Engineering.

Related Coursework: C Programming; Data Structures; Discrete Mathematics.

PUBLICATIONS

- Recovery of Meteorites using an autonomous drone and machine learning. Sravanthi Sinha et.al., Published in Meteorites and Planetary Society, June 9th 2021.
- Meteorite Recovery using an autonomous drone and machine learning. Sravanthi Sinha et.al., Published at 48th Lunar and Planetary Science Conference, Texas, March 2017.
- WikiPathways: capturing the full diversity of pathway knowledge. Sravanthi Sinha et.al., Published in Oxford Journals October 19th, 2015.
- NCSB tutorial: Pathway and Network Analysis. Presented at Utrecht, September 11th 2013.