Saketh Kotagiri

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EDUCATION

Stony Brook University   **Stony Brook, NY**
B.S. in Computer Science   *Aug 2020 - Dec 2024*
- *GPA: 3.51/4.00 (***Presidential Scholarship Recipient)**
- *Relevant Coursework:* Data Structures and Algorithms, System Fundamentals, Software Development, Programming Abstractions, Computer Networks, Data Science, Machine Learning, Artificial Intelligence, Analysis of Algorithms, Theory of Computation

PROFESSIONAL EXPERIENCE

Hillfort Technologies   **Queens, NY**
SWE Summer Intern- Full Stack Development,   *June 2023 – Aug 2023*
- Developed visually appealing client management tools with analytics using ReactJS and TailwindCSS. Worked with and mocked up designs to meet technical, appeal, and readability goals.
- Optimized front/backend server calls to significantly reduce server load and network traffic by 75% with Node. Committed to creating clean robust and performant code in adherence with RESTful practices.
- Designed robust data models for postgresql and mongodb, optimizing query performance and database load.

ProHealth Care   **Syosset, NY**
Summer Intern - IT Admin and Applications   *June 2021 – Aug 2021*
- Identified and improved bottlenecks in the existing workflow procedures and sped up the process of imaging and diagnosing workstations by 5x.
- Demonstrated technical prowess by assembling workstations and skillfully replacing components, showcasing a hands-on approach to hardware management and ensuring a seamless and up-to-date computing environment.
- Took charge of the organization's Active Directory by proficiently managing Device OUs and maintained a proactive approach to maintaining a well-organized and efficient directory structure.
- Maintaining the organization's assets and inventory, contributing to the overall transparency and accountability of resources. This responsibility involved meticulous tracking and documentation, ensuring smooth and informed decision-making processes.

PROJECTS AND COURSEWORK

Political Redistricting Analysis Application
- Developed a full-stack React application for political redistricting analysis, featuring a responsive user interface with Tailwind CSS and interactive mapping capabilities using the Leaflet JS library with a backend in Spring Boot.
- Led and coordinated a student team in executing the project, involving the division and allocation of front-end and back-end development, as well as data collection, generation, and clustering.
- Employed Stony Brook's supercomputer, MPI, and Slurm to generate and analyze over 15,000 political redistricting plans across multiple states using the Gerry Chain library and public data.
- Implemented custom distance algorithms and a K-Nearest Neighbors (KNN) approach to cluster plans, enhancing analytical accuracy, and showcased the results on a dynamic frontend for users to visualize and explore plans along with their associated data.

Interactive Social Media Web Application
- Developed a sophisticated full-stack web application utilizing ReactJS for the frontend and Nodejs with Express for the backend, demonstrating proficiency in both client and server-side technologies, incorporating Authentication, Profiling, and Analytics
- Implemented a secure Authentication system using JWT tokens, leveraging Axios for efficient network calls, and integrating React Context API for state management, emulating the capabilities of Redux. This project showcases a seamless integration of various technologies to ensure a robust and feature-rich web application.

Memory Management/Allocation System in C
- A comprehensive project to showcase proficiency in C programming by overhauling the existing memory management system, replacing the GNU C memory allocation system.
- Introduced an efficient paged and listed implementation, highlighting not only adept command over C language intricacies but also the ability to craft intricate algorithms with robust functionality.

DNS Resolver Server and PCAP File Analysis
- Developed a Python-based tool for recursive resolution of DNS requests, utilizing root servers to deepen my understanding of the DNS protocol
- Developed an additional Python tool to analyze TCP network flows, leveraging data extracted from Wireshark, to further my understanding of networking protocols.

SKILLS

Technical Languages: Python, C/C++, JAVA, C# , SQL, JavaScript/TypeScript, HTML, CSS, MIPS, R
Software / OS / Libraries: Git, GitHub, AWS, Wireshark, VMware, MacOS, Windows, Linux, Ubuntu, Microsoft Office, PowerPoint, Excel, Digital Ocean, Google Docs, Sheets, ReactJs, Node, Spring, PyTorch, NumPy, SciPy, Pandas, Matplotlib, Slurm, MPI, Bash, Powershell, VSCode, Visual Studio,