Sahil Sinha

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Education

B.S. Computer Science May 2026
Arizona State University, Tempe, AZ 4.00 GPA
Coursework: Data Structures & Algorithms, Operating Systems, Computer Networks, Network Security

Professional Experience

Applications Intern Jun 2025 – Jul 2025
Capgemini America *Philadelphia, PA*

- Created a RAG architecture for a food delivery chatbot, integrating LLM and embedding models, a vector database, and serverless compute to enable contextual retrieval with real-time order data access, improving customer experience as part of a case study
- Produced technical coaching materials for 8+ development teams, improving agile adoption and enhanced sprint progress visibility by resolving tracking inconsistencies and boosting report accuracy

Teaching Assistant Jan 2024 – Present
Arizona State University *Tempe, AZ*

- Led group labs for 70+ students, teaching critical programming concepts in Linux, C, and C++ covering memory management, and data structures, to strengthen foundational software engineering skills
- Designed code challenges and led workshops on advanced debugging, Rust, and C++, fostering collaborative learning and technical growth among students
- Mentored over 200 students in debugging and troubleshooting code, providing guidance on problem-solving and coding best practices, which improved student code quality and confidence

Projects

mpac | *CLI utility for tracking and updating multiple git repositories concurrently* **github/sayhilel/mpac**

- Developed a Rust-based CLI tool to batch-update git repositories asynchronously, streamlining workflows with a single-command interface built using Clap
- Optimized update performance by executing concurrent fetch and pull operations with Tokio, reducing overall sync time by up to 70%

say-hi | *Personal website designed in the style of a terminal emulator interface* **github/sayhilel/say-hi**

- Containerized and deployed personal portfolio website using Docker on Google Cloud Run; later migrated infrastructure to Heroku for simplified CI/CD and 64% reduction in monthly costs
- Reduced page load times to under 200ms by implementing server-side rendering with HTMX and AJAX
- Simplified content updates by implementing a TOML-driven structure for adding projects without changing backend code

verbalist | *VSCode extension enabling voice controlled Vim style text editing* **github/sayhilel/verbalist**

- Implemented Python backend to convert speech to editor commands using Whisper(Transformer) and Llama3(LLM) via Groq API, resulting in 1.8s average CPU execution time
- Integrated custom prompt engineering to convert transcribed speech into valid, structured commands for the VSCode extensions API

dis-play | *GUI/CLI utility for monitor configuration and management in Hyprland Window Manager* **WIP**

- Automated monitor configuration in Hyprland by integrating with its Unix Domain Socket to trigger on connection events, reducing setup time to seconds and improving workflow efficiency

Technical Skills

Languages: C, C++, Python, Bash, Go, Rust, SQL, Java
Libraries & Frameworks: PyTorch, Numpy, Tokio, Clap, HTMX, Sounddevice
Tools & Platforms: Git, Docker, Systemd, UNIX, CMake, Google Cloud Run, Groq Cloud, Wireshark, Metasploit

Awards & Extracurriculars

Dean's List: Awarded for 6 consecutive semesters for academic excellence
Devil's Invent Hackathon: 1st runner-up; awarded $1,000 for prototyping an automated attendance system
CodePath Cybersecurity 101 Certificate: Covers Access Control, Malware Analysis, and Networking