Siddharth Narsipur

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Education

University of Rochester   Aug 2022 – May 2026
Bachelor of Science, Computer Science; GPA: 3.82   *Rochester, NY*
Coursework: Operating Systems, Data Structures & Algorithms, Computer Architecture, Computer Vision, Artificial Intelligence, Programming Languages, Theory of Computation
Activities: Teaching Assistant & Workshop Leader, Sue B Center Program Assistant, CSUG Tutor, UR Cricket Club

Experience

URCS Bear Lab   May 2024 – July 2024
Research Assistant   *Rochester, NY*
- Developed a novel tool for Meta headsets with Unity and C# that can adapt VR user interfaces between multiple environments, alleviating the need for repeated manual adjustments.
- Implemented a linear programming model in Python using the Gurobi solver that optimally positions virtual elements, enhancing visibility and spatial utility.
- Created an intuitive VR application for HCI research studies that allows subjects to simultaneously view multiple virtual rooms and switch between them with controller actions.

LiquiDonate   May 2023 – July 2023
SDE Intern   *San Francisco, CA*
- Extended sell/order marketplace functionality by integrating it into REST and GraphQL APIs for use by large retailers.
- Built an authentication microservice in Go that periodically revokes outdated API credentials and creates new ones.
- Deployed unit tests with the Ginkgo framework and set up API performance logging on Google Cloud using Sentry.
- Automated inventory tracking with Shopify webhooks and displayed real-time updates for 75,000+ live movements.
- Designed a highly requested admin dashboard view in React used by the operations and sales teams.

Projects

Texture Generator | *Python, PyTorch, Weights & Biases, Hugging Face*
- Built a modified Stable Diffusion model that generates 1024px texture maps of materials from photographs.
- Implemented the ControlNet algorithm by scraping a 50,000-image dataset and augmenting it by 5x.

Grammar Parser | *Java, C, Antlr*
- Designed a parser for a C-like grammar using both table-driven and recursive descent methods.
- Implemented DFAs, NFAs, and NFA-to-DFA conversion using subset construction.

Command Interpreter | *C, Linux, Bash*
- Developed a command shell that supports pipes, signals, running multiple foreground/background processes, moving between them, and gracefully terminating children.

Group4Good | *Python, Flask, React, Node.js, Postgres*
- Built a full stack application that recommends common trends and interests among large groups.
- Developed a flask-based backend that uses a sentence embedding model to find semantic similarities in data.

Cache Simulator | *C, RISC-V Assembly, x86 Assembly, Rust*
- Created a set-associative cache simulator, configurable with multiple traversal orders and replacement types, and modeled hit rates across a variety of machines.

Nearvents | *Angular, Ionic, Typescript, Firebase*
- Led the development of a cross-platform event management app with real-time updates powered by Firestore.
- Implemented a location-based social media feed recommendation system using Capacitor Geolocation API.

Skills

Programming Languages: Python, Java, C, JavaScript, Go, C#, TypeScript, HTML, CSS
Technologies: Git, Docker, Postgres, AWS, Firebase, GraphQL, Flask, OpenCV, Google Cloud
Frameworks: React, Angular, Next.js, Ionic, React Native