Siddharth Narsipur

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Education

University of Rochester — Rochester, NY
Bachelor of Science in Computer Science — *Aug. 2022 – May 2026*

- GPA: 3.8, Dean's List
- Coursework: Operating Systems, Distributed & Parallel Computing, Data Structures & Algorithms, Computer Architecture, Computer Vision, Artificial Intelligence, Programming Languages, Advanced Compilers.
- Activities: Google Developer Student Club, MLH Fellowship Finalist, CSUG Tutor, UR Cricket Club.

Experience

Software Engineer Intern — May 2023 – July 2023
LiquiDonate Inc. — *San Francisco, CA*

- Developed multiple REST and GraphQL APIs in Go, improving sell & order processing efficiency by 30%.
- Optimized Postgres SQL queries and indexing strategies, improving database query performance by 20%, and managed large-scale data processing in BigQuery for analytics and reporting.
- Built an authentication microservice in Go, automating credential revocation and renewal, reducing delays by 40%.
- Deployed unit tests with the Ginkgo framework, achieving 90% test coverage, and integrated API performance logging with Sentry on Google Cloud.
- Designed an admin dashboard in React to monitor real-time data, tracking 15,000+ concurrent shipping movements.

Undergraduate Research Assistant — May 2024 – Present
Rochester Bear Lab — *Rochester, NY*

- Created an application for Meta Headsets that automatically adapts user interfaces for different VR/MR environments.
- Implemented a 50 parameter linear programming model in Python that optimally places virtual elements in 3D space.
- Developed a Unity tool using C# and .NET to conduct research studies, enabling subjects to view and interact with multiple (4-6+) virtual rooms simultaneously, improving data collection efficiency by 40%.
- Presented poster and demo at conferences and workshops. Awarded the Schwartz Discover Grant.

Teaching Assistant — Jan 2023 – Present
Hajim School of Engineering — *Rochester, NY*

- Held office hours for 20+ students to review lectures and guide students with assignments for Data Structures courses.
- Conducted workshops to improve understanding in topics such as Machine Learning and Sorting Algorithms.

Projects

3D PBR (Physically Based Rendering) Material Generation | *Python, PyTorch, CUDA, Bash scripting* — Github

- Constructed a computer vision pipeline using the ControlNet algorithm with Stable Diffusion models to generate highly photorealistic PBR texture maps from photographs.
- Trained deep learning models on NVIDIA A100 GPUs using CUDA acceleration with the Mat Synth dataset, resulting in a 10% lower error rate through optimized hyperparameter tuning, mixed precision training, and data preprocessing.

Group4Good (Built @ HackMIT) | *Python, Flask, React, IRIS Vector DB* — Github

- Built a full-stack application with React, Flask and Python to securely analyze purchase data of large groups and match their common interests with relevant non-profits based on k-means clustering and vector similarity.
- Leveraged Capital One's Nessie API and InterSystem's IRIS Vector Search to identify and recommend charities based on transaction patterns, attaining 92% user-charity match satisfaction.

Nearvents (DandyHacks Winner) | *Angular, TypeScript, Ionic, Firebase* — Github

- Created a full-stack event management app used by 400 college students with real-time feed updates powered by Firestore.
- Implemented a location-based notification feed using Capacitor's Geolocation API that increased app engagement by 40%.

Technical Skills

Languages: Java, Python, Go, C, C#, JavaScript, HTML/CSS, TypeScript
Frameworks: React, Node.js, Flask, Angular, Ionic, Next.js
Developer Tools: Git, Docker, Kubernetes, SQL, Postgres, Vector DB, Firebase, Google Cloud Platform, Agile, Flask