# Siddharth Narsipur

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## Education

**University of Rochester** — Rochester, NY

*Bachelor of Science in Computer Science, GPA: 3.8, Dean's List* — *Aug. 2022 – May 2026*

- **Coursework:** Operating Systems, Distributed & Parallel Computing, Data Structures & Algorithms, Computer Architecture, Computer Vision, Artificial Intelligence, Programming Languages

## Experience

**Software Engineer Intern** — May 2023 – July 2023

*LiquiDonate Inc.* — *San Francisco, CA*

- Enhanced marketplace by integrating sell & order features into REST and GraphQL APIs for use by large retailers.
- Implemented concurrent server-side caching to handle client requests, reducing API call latency by 25%.
- Built a scalable authentication microservice in Go that periodically revokes outdated API credentials and creates new ones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 end-to-end inventory tracking for 100,000+ SKUs with complex variations using Shopify and Stripe webhooks.
- Designed a highly requested admin dashboard in React that displayed updates for 15,000+ real-time shipping movements.

**Undergraduate Research Assistant** — May 2024 – Present

*URCS Bear Lab* — *Rochester, NY*

- Developed a application for Meta Quest headsets with Unity and C# that can adapt Virtual Reality UIs for multiple environments, reducing setup time by 30% and alleviating the need for manual adjustments.
- Implemented a linear programming model in Python using the Gurobi solver that considers 50+ input parameters and places virtual elements in 3D space while preserving visibility and spatial utility.
- Created an intuitive VR tool for HCI research studies that allows subjects to simultaneously view up to 20 virtual rooms at once and switch between them with controller actions.

**Teaching Assistant** — Jan 2023 – Present

*Hajim School of Engineering* — *Rochester, NY*

- Hold office hours to improve lecture understanding and guide students with assignments for Data Structures, AI courses.
- Conducted workshops to improve beginner understanding in topics such as Machine Learning and Sorting Algorithms.

## Projects

**3D Texture Map 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, achieving a 20% lower error rate than open-source models.
- Trained a deep learning model on NVIDIA A100 GPUs using the MatSynth dataset. Employed memory efficient attention, aggressive data pre-processing, and CUDA acceleration to achieve higher batch size and <5s inference for large images.

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

- Built a full-stack application with a Python-Flask backend to securely analyze purchase data and match common interests among groups with relevant non-profits based on K-Means clustering of vector embeddings generated by a sentence model.
- Leveraged Capital One's Nessie API and InterSystem's IRIS Vector Search to identify and recommend charities based on relevant transaction patterns, attaining 92% user-charity match satisfaction.

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

- Created a college event management app used by 250+ students with real-time feed updates powered by Firestore.
- Implemented a location-based notification feed using Capacitor Geolocation API that increased engagement by 40%.

**Distributed Counter** | *Python, Java*

- Designed and implemented a distributed counter service with support for idempotency tokens and atomic operations.
- Integrated Apache Kafka's durable queuing system for reliable event logging and data loss prevention.

## Technical Skills

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