# Siddharth Narsipur

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## EDUCATION

**University of Rochester** — Rochester, NY
*Bachelor of Science in Computer Science* — *Aug. 2022 – December 2025*
- 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

**American Express** — June 2025 – August 2025
*Software Engineer Intern* — *New York, NY*
- Designed and implemented a CLI tool in Golang to automatically test compliance policies against cloud infrastructure, significantly accelerating Terraform module development by over 20% across enterprise environments.
- Implemented a concurrent, scalable system leveraging goroutines to evaluate 1,000+ policies across 10,000+ Terraform plans in AWS and GCP environments.
- Developed an automated GitHub Actions workflow to integrate the tool into CI/CD pipelines, triggering a test suite on every pull request, and reducing breaking changes by 30%.

**LiquiDonate** — May 2023 – July 2023
*Software Engineer Intern* — *San Francisco, CA*
- Served as the first Software Intern for a VC-backed startup, developing their first REST and GraphQL API suite in Golang for clients, improving sell & order processing efficiency by 30%.
- Optimized Postgres queries and indexing strategies to improve query performance, resulting in 20% faster API calls.
- Deployed unit tests with the Ginkgo framework, achieving 90% test coverage, integrated API performance logging with Sentry on Google Cloud, and implemented CI/CD pipelines to automate testing and deployment.

**Clearly Blue** — Jan 2023 – May 2023
*Software Engineer Intern* — *Virtual*
- Engineered a scalable AI content generation system for creatives, leveraging Docker, Kubernetes, and Github Actions CI/CD worflows to support 10k+ creative requests/day.
- Integrated APIs from AI services into microservices, implementing a local caching layer using Redis, and improved perfomance monitoring with Grafana.

## 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, and deployed two open-source models on HuggingFace.
- 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)** | *Java, Flask, React, IRIS Vector DB, Pinecone Database*      Github
- Built a full-stack application with a Python and Flask backend to securely analyze 4000+ group purchases, leveraging web-scraped data from 200+ nonprofits and K-Means clustering to match user interests.
- Leveraged Capital One's Nessie API, InterSystem's IRIS Vector Search and Pinecone's Vector Embeddings 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+ students with real-time feed updates powered by Firestore.
- Implemented a location-based notification feed using Capacitor's Geolocation API that increased engagement by 40%.

**Distributed File System** | *C++, gRPC, protobuf, CMake*      Github
- Built a fault-tolerant grpc-powered distributed file system with hearbeat detection, load balancing, and automatic failure recovery.

## 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