Samrat Sahoo

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Education

Georgia Institute of Technology, *B.S. Computer Science* May 2025 | Atlanta, GA
GPA: 3.96/4.0 | **Awards:** Bessemer Fellow, Faculty Honors, Eagle Scout, FinTech Fellow, Startup Exchange Pitch Competition Winner
Coursework: Data Structures & Algorithms, Operating Systems, Compilers and Interpreters, Software Engineering Design

Experience

Georgia Tech Financial Services and Innovation Lab, *Research Assistant* December 2021 – Present | Atlanta, GA
- Designed and developed a large-scale database (Vue.js/Nuxt.js/Celery/Python) for NFT counterfeit detection on AWS (SQS)
- Built a privacy-centered federated learning protocol for collaborative machine learning (GoLang/PostgreSQL/Python/LibP2P)
- Currently researching reinforcement learning techniques to emulate and optimize financial behaviors related to student loans

Problem Solving and Education Technology Lab, *Research Assistant* January 2023 – Present | Atlanta, GA
- Researched different learning techniques (i.e., Explanations, Verbatim Script) for comparison against Large Language Models
- Prepared materials such as the transcript of the source video, quiz questions, and the large language model prompt for the study

Cruise Automation, *Software Engineering Intern* May 2023 – July 2023 | San Francisco, CA
- Refactored the Sim Platform's access control system, saving 100+ hours of engineering time per month (PostgreSQL/OPA)
- Engineered widgets displaying exit codes, execution cost, and test size, saving 1000s of dollars per month (Kubernetes/Pulumi)
- Extended simulation platform's search engine to drive additional insights into test age information (ElasticSearch/BigQuery)

Visor, *Software Engineering Intern* January 2023 – May 2023 | New York City, NY
- Redeveloped the HubSpot chat integration for better user experiences for 1000+ users (Vue.js/HubSpot API)
- Built the settings integrations page from scratch for Salesforce, HubSpot, & Atlassian (HubSpot/Salesforce/Atlassian APIs)
- Redesigned the Visor home page, optimizing for real-time filtering and data via graph manipulation (CloudstoreDB)

Fidelity Investments, *Software Engineering Intern* June 2022 – August 2022 | Westlake, TX
- Implemented a data interaction application (Vue.js/Express.js/AWS) for data, saving 100+ hours of manual data mining
- Delivered automation APIs (GraphQL/Python) to 100 teams to interact with legacy data engineering infrastructure
- Deployed data mining applications to 3000+ developers (Jenkins/ uDeploy), improving integration testing time by 50%
- Built modern GraphQL API layers on top of legacy SOAP APIs for database operations, reducing development time by 66%

Roboflow (YC S20), *Software Engineering Intern* March 2021 – August 2021 | Des Moines, IA
- Created the training procedure for the Roboflow classification network (PyTorch/Docker) used by 3 enterprise users
- Initiated development for the Roboflow SDK (Python) enabling better workflow integrations for 100,000+ developers
- Roboflow Python package integrated with YOLOv5 (25,000 stars on Github), increasing new users by 1000 per month
- Adapted computer vision models like YOLOX and MobileNetV2 (C++/Python) for Roboflow (1000+ monthly users)

Research Projects & Publications

Teaching ChatGPT, *Full Paper Accepted and Published at Human Factors and Ergonomics Society*
- Directed experiments with 150+ students to determine the efficacy of the protege effect applied with large language models
- Conducted a literature review on prior works regarding teachable agents and psychological concomitants of the protege´effect

Universal NFT Vector Database, *Full paper submitted to Nature Scientific Reports*
- Developed public visualization and similarity matching APIs (Flask/Google Cloud Run) using RegNetY-080 embeddings
- Devised a public graphical user interface (Vue.js/Nuxt.js/MongoDB) for easy interaction with vector database data
- Integrated task queue structure (AWS Simple Queue Service/Celery) for horizontal scaling and hardware agnosticism

Scatter Protocol, *Full paper submitted to IEEE International Conference on Blockchain (Blockchain 2024)*
- Developed an incentivized and trustless protocol for decentralized, federated learning (Solidity/Go-Ethereum)
- Created a decentralized, peer2peer node system to split machine learning loads across a network (GoLang/LibP2P)
- Created a secure machine learning runtime environment by introducing additional OS isolation using Open Container Initiative

Leadership

Bits of Good, *Director of Engineering, Engineering Manager* September 2021 – Present | Atlanta, GA
- Led a team of developers and designers using agile methodology to create a mobile app (React Native) for 800 users
- Connected over 1400 developers through creating the National Hack4Impact Portal (React.js/Next.js/Azure/Vercel)
- Began the Infrastructure Labs team, focusing on building scaleable systems to accelerate developer productivity

Skills

Languages & Frameworks: Python, Javascript, Java, Solidity, Typescript, GoLang, HTML, Chainlink, VueJS, NuxtJS, NextJS, ExpressJS, Flask, ReactJS, PyTorch, MongoDB, Graph Protocol, Tensorflow, OpenCV, React Native, Assembly, C, LibP2P

Developer Tools & Libraries: Git, Amazon Web Services (Simple Queue Service, Elastic Container Service), Google Cloud Product (Cloud Run), REST API, Docker, Github Actions, Linux, CLI, RabbitMQ, Firebase, Ganache, Milvus, Postman, Insomnia