

# Samrat Sahoo

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## Education

**Georgia Institute of Technology**, *B.S. Computer Science, Minor in Economics* 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)  
• Leveraging deep reinforcement learning techniques to optimize portfolio investments for retirement purposes (PyTorch/NumPy)

**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