Samrat Sahoo

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Education

Stanford University (Incoming) September 2025 – June 2027
Master of Science in Computer Science, Concentration in AI *Stanford, CA*

Georgia Institute of Technology August 2021 – May 2025
Bachelor of Science in Computer Science, Minor in Economics | GPA: 3.97/4.00 *Atlanta, GA*

- Concentrations: Artificial Intelligence + Systems and Architecture
- Awards: Bessemer Fellow, FinTech Fellow, Faculty Honors, Startup Pitch Competition Winner

Work Experience

Software Engineering Intern May 2023 – July 2023
Cruise Automation (YC W14) *San Francisco, CA*

- Refactored the access control system, saving 100+ hours of engineering time per month (PostgreSQL/OPA)
- Engineered widgets displaying exit codes, and execution cost, saving 1000s of dollars (Kubernetes/Pulumi)
- Extended simulation platform's search engine to drive additional insights into tests (ElasticSearch/BigQuery)

Software Engineering Intern Jan. 2023 – May 2023
Visor *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 different CRMs (HubSpot/Salesforce/Atlassian APIs)
- Redesigned the Visor home page, optimizing for real-time filtering via graph manipulation (CloudstoreDB)

Software Engineering Intern June 2022 – August 2022
Fidelity Investments *Westlake, TX*

- Implemented a data interaction application (Vue.js/Express.js/AWS), saving 100+ hours of manual data mining
- Delivered automation APIs (GraphQL/Python) to 100 teams to interact with legacy engineering infrastructure
- Deployed data mining applications to 3000+ developers (Jenkins/ uDeploy), improving integration testing time

Software Engineering Intern March 2021 – August 2021
Roboflow (YC S20) *Des Moines, IA*

- Created the training procedure for the Roboflow classification network (PyTorch/Docker) for 3 enterprise users
- Initiated the Roboflow SDK (Python) enabling better workflow integrations for 500,000+ developers
- Roboflow Python package integrated with YOLOv5 (25,000 stars on Github), increasing users by 1000 per month

Projects & Research Publications

Controlling Physically Simulated Characters using GAN-Driven Reinforcement Learning

- Implemented PPO with a classifier between reference motions and policy outputs as a reward generator
- Jointly trained a GAN with the rest of the RL process using a policy generator and an ensemble discriminator
- Accelerated character training efficiently by an order of magnitude through parallelization of agents using 1 scene

Guiding Reinforcement Learning Exploration using Exploration Critique Networks

- Developed a cross-attention module between past trajectories and recent state transitions to guide RL exploration
- Applied ideas from intrinsic curiosity modules to determine novelty of state transitions for self-supervised learning

Scatter Protocol | *First-Authored at 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)
- Designed a secure machine learning environment by introducing OS isolation using Open Container Initiative

Technical Skills

- **Languages and Frameworks:** Python, PyTorch, NumPy, Javascript, Java, Solidity, Typescript, C++, GoLang, React.js, Vue.js, Nuxt.js, Next.js, Express.js, Flask, React.js, MongoDB, React Native, Assembly, C, LibP2P
- **Developer Tools and Libraries:** Isaac Lab, Isaac Sim, NVIDIA Omniverse, MuJoCo, Git, Google Cloud Product (Cloud Run), Docker, Docker Compose, GitHub Actions, RabbitMQ, Firebase, OpenAI Vector Store, Postman