

RISHIK SARKAR

New York, NY | +1-732-783-8669 | rishiksarkar02@gmail.com | github.com/RishikSarkar | rishiksarkar.com

EDUCATION

Cornell University

Master of Engineering in Computer Science

Aug 2024 – May 2025

GPA: 3.9/4.0

Rutgers University-New Brunswick

Bachelor of Science in Computer Science (Honors), Cognitive Science

Sep 2020 – May 2024

GPA: 3.9/4.0

EXPERIENCE

Software Engineer

Mar '25 – Present

Instalily AI (Google AI Accelerator)

New York, NY

- Engineered a **RAG**-based agent and **MCP** server for United Rentals using **Azure AI Search** and a custom **LangChain**-style framework; optimized **embedding pipelines** and **vector index** queries, reducing average retrieval latency by 40%.
- Developed a **Twilio**-powered voice agent with **Gemini Live API** and **Azure Search**, integrating **ADK** and **MCP** to cut rental conversion time by 50% through intelligent voice response routing.
- Designed and deployed a clienteling agent with **ADK/MCP** backend and **Next.js** frontend, enabling iMessage-based luxury outreach via **BlueBubbles**; drove 40% of total sales via autonomous outreach execution.
- Created an autonomous Jira issue resolution agent using **GitHub APIs**, **semantic search**, and **CI/CD** pipelines, enabling fully automated ticket handling in minutes and improving DevOps turnaround time.

Technical Research Consultant

Sep '23 – Present

Princeton University (CCNP)

Princeton, NJ

- Engineered a **Python**-based **ETL** pipeline to consolidate 800+ **Excel**, **CSV**, and **JSON** files into a structured **SQLite** database with enforced schema rules, enabling standardized data for 1000+ subject records.
- Built a **Tkinter** GUI for 15+ researchers to perform **SQL** queries and **CRUD** operations, reducing manual data retrieval time and improving access to analytical workflows via **Pandas**.
- Upgraded to a **Dockerized Django/PostgreSQL** EMR platform with modular workflows and secure web access, enabling faster agile collaboration cycles and improving system scalability across research teams.

Software Engineer (Contract)

Oct '24 – Nov '24

AllAboutID (Startup)

New York, NY

- Built a secure asset-management system using **MongoDB Atlas** with encrypted data-at-rest, **JWT** auth, **RBAC**, and dynamic **SVG** rendering, enabling scalable and secure asset tracking.
- Designed a responsive frontend with **Next.js** and **Tailwind CSS**, integrating **HTTPS**, **CSP** headers, and **XSS/CSRF** safeguards to ensure secure and user-friendly asset visualization.

Full-Stack Developer Intern

Jun '23 – Dec '23

Provenir (Fintech)

Parsippany, NJ

- Built an automated credit-risk decision engine using **Decision Trees**, **Random Forests**, **XGBoost**, and **RNNs** via **scikit-learn** and **TensorFlow**, achieving 95% accuracy on historical customer data.
- Improved model transparency using **SHAP/LIME**, wrote 100+ unit tests with **MockMvc**, and containerized deployments on **Minikube**, boosting system reliability by 20% and reducing latency by 98%.
- Optimized **API** endpoints for artifact generation and log retrieval to support real-time risk monitoring, resulting in a 135% increase in application conversion rates.

PROJECTS

Tch.ai | Next.js, Tailwind, Flask, Keras, OpenCV, Pandas, MySQL

Apr 2023 – Jul 2023

- Developed a full-stack emotion-based music recommendation app using **Keras** and **OpenCV** on **FER-2013** data, achieving 96% training and 70%+ validation accuracy for real-time mood-based song curation.
- Designed a responsive frontend in **Next.js/Tailwind CSS** with multi-method genre selection and integrated a secure **MySQL** backend for user account management with custom login/authentication logic.

TECHNICAL SKILLS

Languages: Python, Java, C#, TypeScript, Swift, C/C++, SQL

Web Technologies: HTML, CSS, Next.js, Tailwind CSS, Flask, Spring

Databases/DevOps: MySQL, MongoDB, SQLite, JDBC, Supabase, Docker, Kubernetes, Jenkins, Amazon AWS, Git, Jira