

Elvin Ly

New York, NY | 631-633-6042 | elvin.ly3@gmail.com | [elvin-ly](https://www.linkedin.com/in/elvin-ly) | [iElvxn](https://github.com/iElvxn) | U.S Citizen

EDUCATION

Stony Brook University

Master's of Science in Computer Science

Bachelor of Science in Computer Science, GPA: 3.72

- Relevant Courses: Software Development, Algorithms (TA), Databases, Computer Networks, NLP, Security

Stony Brook, NY

Expected May. 2027

Aug. 2023 – May 2026

EXPERIENCE

Stony Brook University

Graduate Researcher

Stony Brook, NY

Incoming — Fall 2026

Capital One

Software Engineer Intern

Jun. 2026 - Present

Richmond, VA

- Engineered a full-stack asset recertification platform using **React, TypeScript, Python (Flask), AWS Aurora (PostgreSQL)** with role-based asset control, replacing a manual audit process for **1,000+** enterprise assets
- Architected an idempotent serverless notification pipeline using **AWS Lambda, EventBridge, and S3**, delivering daily aggregated digest emails and reducing catalog data staleness by **35%**
- Integrated **ServiceNow CMDB** REST APIs via **AWS Lambda** to automatically sync operational metadata (BAP, SOX criticality), eliminating **100%** of manual cross-referencing
- Optimized **PostgreSQL** query performance for **5,000+** catalog records to achieve under **50ms** latency by implementing LATERAL JOINS with array aggregation for nested component data

MyStage

Software Engineer Intern

Aug. 2025 - Jan. 2026

Remote

- Engineered a full-stack administrative dashboard using **React (TypeScript), Firebase, Python (Flask), and Google Cloud Platform** to centralize internal tools and streamline data management efficiency by **35%**
- Orchestrated and deployed a scalable **Python/Flask** RESTful **microservice** on **GCP** for the web scraping pipeline, leveraging a hash distribution system to achieve **60%** reduction in query bottlenecks
- Implemented **CI/CD** pipelines with **GitHub Workflows**, automating testing and deployment

PROJECTS

Study Kitty | *TypeScript, React Native, AWS API Gateway, Lambda, DynamoDB, S3*

May. 2025 – Present

- Developed a fullstack mobile productivity app with gamified focus sessions using **React Native** with **1000+** users
- Architected a scalable **microservice** architecture using **AWS API Gateway, Lambda, and DynamoDB**
- Optimized data flow via local caching, reducing infrastructure costs by **30%** and accelerating API response times
- Implemented secure authentication by integrating **Clerk** with **AWS Lambda** and **REST API Gateway** authorizers, securely verifying **JWTs**, resulting in protected user data and securing mobile API endpoints

Job Match RAG | *Python, FastAPI, Docker, Redis, Next.js, Pinecone, GPT-4, Cohere*

Apr. – May. 2026

- Built a hybrid **RAG** pipeline using **BM25**, dense embeddings, and **Cohere** reranking across **123K+** postings, **doubling** BERTScore F1 and increasing **RAGAS** faithfulness by **35%** via 12-condition ablation study
- Reduced repeat-query latency by **97%** by implementing **Redis** response caching via **Docker** keyed on resume SHA-256 hash, eliminating redundant **Pinecone vector database** queries, **Cohere** reranking, and **GPT-4** calls
- Eliminated LLM hallucinations of skills via skill extraction and evidence-span citations, achieving **85%** skill recall

Driver Drowsiness Detection | *Python, TensorFlow, NumPy, OpenCV, Matplotlib, Scikit-learn*

Aug. 2025

- Developed and trained a **deep learning CNN** for real-time driver drowsiness detection using **TensorFlow** and a **MobileNetV2** architecture, achieving an accuracy of **98%** via data augmentation and regularization
- Utilized **OpenCV** to monitor a user's eye movements, providing real-time alerts for potential drowsiness

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, TypeScript, HTML/CSS, SQL, C

Frameworks/Libraries: React.js, Node.js, React Native, Next.js, Express.js, FastAPI, Flask, TensorFlow, NumPy

Technologies: AWS, GCP, Firebase, PostgreSQL, MongoDB, Git, Postman, Jira, CI/CD, Jenkins, Claude Code

LEADERSHIP AND AFFILIATIONS

Google - BASTA SWEP Code2Career Fellow

Oct. 2025 – Present

- Selected for Google's BASTA SWEP (formerly G-SWEP) for mentorship from Google Software Engineers.

External Public Relations at Asian Student Alliance

Sep. 2023 – Present