

SIVAPRIYA GOPI

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Education

Master of Science in Computer Science

University of Minnesota, Twin Cities - **GPA: 3.9/4**

Sep 2024 – May 2026

Minnesota, USA

Bachelor of Technology in Computer Science and Engineering

SRM Institute of Science and Technology - **CGPA: 9.57/10**

Aug 2020 – May 2024

Chennai, India

Technical Skills

Programming Languages: Python, SQL, Java, C++, HTML, CSS

Frameworks & Libraries: Pandas, NumPy, PyTorch, TensorFlow, Scikit-learn, Spring Boot, Svelte, Pygame, REST APIs

Tools & Technologies: GitHub, Power BI, MySQL Workbench, Figma, StarUML, Zoho Creator, Eclipse, MATLAB

Development: Agile, Microservices, OAuth 2.0, CI/CD, SDLC

Specialized Skills: Healthcare Analytics, Statistical Analysis & Optimization, Data Visualization, Predictive Modeling

Professional Experience

Graduate Research Assistant - Department of Neurosurgery

University of Minnesota, Twin Cities

Dec 2024 – Present

Minneapolis, MN

- Engineered **Python & MATLAB applications** to automate ingestion and analysis of multimodal patient datasets (30+ cases), cutting preparation time from hours to <20 minutes.
- Designed **Power BI dashboards & Excel reports** that delivered clinician-ready insights, accelerating neurosurgeon decision-making and improving study accuracy.
- Automated repetitive workflows (e.g., **Brain and Motor Control Assessment, TeD, ABPM**), reducing turnaround time by ~40% and minimizing human error.
- Developed a custom **Dual N-Back cognitive testing web app** with synchronized visual/auditory stimuli and real-time scoring, now integrated into CE-STAND clinical trials.

Software Developer Intern – Backend Systems

Sofilogic Systems

Jun 2023 – Sep 2023

Chennai, India

- Designed and deployed scalable **Java Spring Boot backends** and **RESTful APIs** for payroll systems serving 5 Healthcare organizations (250+ employees each).
- Implemented **OAuth 2.0 authentication**, securing sensitive financial and HR data.
- Optimized SQL queries and caching strategies, reducing system response time by **30%** and improving reporting speed.
- Improved system scalability and reporting accuracy by **20%**, enabling data-driven workforce operations across industries.

Projects ([GitHub Repositories](#))

Stock Sentiment Analysis – The Social Media Effect

Python, BERT, NLP, Svelte, Pandas, Data Visualization

Jan 2025 – May 2025

- Analyzed 50K+ tweets and stock prices using **BERT-based NLP** and causality modeling, finding measurable short-term impacts on 11 US stocks.
- Developed an interactive **Svelte dashboard** for data storytelling and visualization of trading trends.

Intruder Escape – AI Pursuit-Evasion Game

Python, Pygame, A* Pathfinding, Uniform Cost Search

Sep 2024 – Dec 2024

- Designed a pursuit-evasion simulation reducing node exploration by **4.4x** with optimized search algorithms.
- Implemented difficulty scaling and dynamic obstacle generation for adaptive AI behavior in real time.

News Headline Classification Model

Python, Scikit-learn, Pandas, NLP

Jan 2024 – May 2024

- Built ML pipeline classifying 25K+ news headlines across categories with **92% accuracy**.
- Applied tokenization, vectorization, and multi-class classification models.

Crime Type Prediction & Analysis

Python, Random Forest, Supervised Machine Learning, Data Visualization

Aug 2023 – Dec 2023

- Built an end-to-end supervised **multi-class ML model** to predict crime type from contextual features using ~8K+ historical records.
- Developed visualization modules for **exploratory data analysis** that help law enforcement interpret spatial and temporal crime patterns.

Personal Portfolio ([Sivapriya Gopi's Portfolio](#))