SIDHARTH SWAMY

📞 248-832-0211 ✉ sidharthswamy1@gmail.com in linkedin.com/in/sidharth-swamy 🌐 sidharthswamy.com

Education

Stony Brook University — Expected May 2027
BS in Applied Math & Statistics, BS in Information Systems — *Stony Brook, NY*

Oakland Schools Technical Campuses — May 2023
Cybersecurity Networking — *Novi, MI*

Summary

Applied mathematics and data science enthusiast skilled in machine learning, Python and Java programming, and SQL database design, with a focus on problem-solving and developing scalable solutions. Eager to learn, solve complex problems, and work in a collaborative space.

Relevant Coursework

- Data Structures
- Data Science & Machine Learning
- Database Management
- Applied Statistical Analysis
- Linear Algebra
- Multivariable Calculus
- Data Analysis
- Applied Combinatorics

Projects

MNIST Convolutional Neural Network | *Python* — November 2024

- Built a CNN in Python from scratch with no external libraries to classify **60,0000** handwritten digits from the MNIST dataset, achieving **92% accuracy** on test data, despite hardware constraints.
- Utilizes a **modular neural network** architecture with dynamic layer configuration, enabling the creation of **deep, multi-layered models**. Allows for customization of number of neurons, filter sizes, activation functions, and learning rates among all layers.
- Implemented core functionalities, including forward propagation, backpropagation, and gradient descent, while optimizing computational efficiency using methods like batch processing for resource-constrained environments.

Boeing Database Application and Web Scrapers | *SQL, Python, Microsoft Access* — November 2024

- Designed an SQL database integrating **45,000+ data points** on Boeing aircraft, airports, airlines, flights, and incidents, enabling streamlined data analysis for aviation trends.
- Created hierarchical forms, SQL queries, and reports in **Microsoft Access** to deliver actionable insights for aviation industry stakeholders and improve data accessibility.
- Developed custom Python web scrapers to extract relevant data from **10+ public websites** and API sources, reducing manual input time by orders of magnitude.

Gmail Filter | *Python, Google Cloud Console* — October 2024

- Developed a Python tool that utilizes the Google Gmail API to automatically filter and delete emails based on custom keywords and senders.
- Utilized **OAuth2.0** for secure authentication and employed error handling to ensure smooth execution.

Portfolio Website | *HTML/CSS, JavaScript* — January 2025

- Created a responsive and interactive personal website to showcase my projects, skills, and experience.
- Designed entirely from pure HTML, CSS, and JavaScript. Hosted on Hostinger.

Skills

Languages: Java, Python, SQL, HTML/CSS, JavaScript
Developer Tools: IntelliJ IDEA, VS Code, Eclipse
Technologies/Frameworks: Microsoft Access, NumPy, Google Cloud Platform

Scholarships

Presidential Merit Scholarship — Fall 2023 – Present

- $5,500 per semester