Neil Goyal

US Citizen | 404-542-0256 | ngoyal48@gatech.edu | linkedin.com/in/neilgoyal/ | github.com/neilgoyal

EDUCATION

Georgia Institute of Technology   Atlanta, GA
Bachelor of Science in Computer Science   *Expected Graduation: May 2025*
- **GPA:** 4.0/4.0 (Faculty Honors, Dean's List)
- **Specializations:** Artificial Intelligence, Computer Networking, Databases

EXPERIENCE

Chevron Corp.   May 2023 - August 2023
Software Engineer Intern
- Developed a Large language model (LLM) to generate Azure pipeline files with LangChain and Python.
- Deployed the LLM using Azure as a chat-bot to generate task-specific Ansible roles, improving efficiency by 15%.
- Leveraged the model to generate well-formed pipeline files, allowing engineers to deploy their apps safely and efficiently.
- Wrote a powershell script to conveniently retrieve files from an Azure DevOps project and enhance team efficiency.

Georgia Tech Research Institute   January 2023 - May 2023
Research Assistant
- Developed a fuzzing program in C to investigate Kernel components and detect vulnerabilities in Windows Defender.
- Employed fuzzing techniques to strategize approaches and trigger crashes for analysis, detecting 100+ vulnerabilities.
- Successfully identified and resolved more than 10 issues in prominent fuzzing programs like WinAFL and Winnie.
- Engineered a solution to incorrect MAC addresses being used while working with QEMU and Virtual Machines.

Hackershala Pvt. Ltd.   June 2021
Software Engineer Intern
- Developed a Network Intrusion Detection System (IDS) that uses machine learning to flag malicious activity on a server.
- Implemented the random forest classifier model ($\approx$96% test accuracy) using Python and scikit-learn.
- Processed data using pandas and NumPy, deployed the model as a RESTful API using Flask.

PROJECTS & ORGANIZATIONS

CureGenie | *http://curegenie.net*   June 2023 – Present
- Developed a fitness and dietetics planner that uses GPT-4 to create personalized diet and workout schedules.
- Utilized LangChain and Anyscale to analyze blood test reports and seamlessly feed the data to GPT-4 using Python.
- Leveraged MindsDB to access Google Calendar and dynamically adapt to the user's schedule, ensuring a tailored plan.
- Deployed the planner using Streamlit and AWS, securing 1st place out of 800+ projects at the UC Berkeley Hackathon.

Machine Learning for Financial Markets | *Georgia Tech Vertically Integrated Projects Program*   Jan. 2023 – Present
- Developed a predictive model using scikit-learn and TensorFlow to predict future earnings of large technology firms.
- Published a research paper showcasing a 6% increase in model accuracy compared to existing literature and studies.
- Formulated a Trading strategy based on Corporate Events, Asset Pricing, and Earnings analysis.

Lo-Fi Music Generator | *The Agency - Georgia Tech's AI/ML Club*   August 2022 – May 2023
- Designed a Transformer-based model trained on the MAESTRO dataset using TensorFlow to generate Lo-Fi music.
- Utilized the GANSynth (Adversarial Neural Audio Synthesis) algorithm for better performance than RNN-based models.
- Implemented Relative Attention to allow the Transformer to generate continuous melodies beyond the training dataset.

DayTrak | *github.com/neilgoyal/DayTrak*   Dec. 2020 – March 2022
- Created an app using Flutter (2000+ installs) that allows students to view a personalized assignment manager.
- Utilized Firebase for Google Authentication and storing user data in the cloud.
- Served real-time data to the application using a RESTful API developed in Python and Flask.

TECHNICAL SKILLS

Languages: Python, JavaScript, Java, C/C++, C#, Kotlin, Dart, Swift, GNU Octave, MATLAB, SQL, HTML/CSS
Frameworks: TensorFlow, Flutter, Node.js, Flask, Django, WordPress, Keras, PyTorch, Unity Engine
Concepts: Data Structures and Algorithms, Object-Oriented Programming, Machine Learning, Deep Learning, Computer Vision, Human-Computer Interaction