Ayush Narain

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EDUCATION

Georgia Institute of Technology   Atlanta, GA
Bachelor of Science in Computer Science   August 2022 – May 2026

- Coursework: Data Structures & Algorithms, Databases, Computer Systems & Networks, AI, ML, Algorithm Design
- Highest Honors: Fall 2022, Spring 2023, Summer 2023, Fall 2023, Spring 2024, Fall 2024

EXPERIENCE

Embedded Systems Software Intern | Georgia Tech Research Institute | AES Lab   January 2025 – May 2025
- Deploying a **machine learning regression model using Random Forest** to determine KCAS data of mission flights, leveraging **advanced predictive analytics** by **visualizing predictions geographically** via interactive mapping
- Designing, coding, and debugging **embedded software for commercial airliner systems** and **developed real-time, low-latency software** solutions ensuring **seamless integration** with existing military and aerospace technologies
- Developed **CI/CD pipelines for deployment automation**, conducting **rigorous performance benchmarking** and debugging for **optimized system response and reliability** and resolving **critical system bottlenecks**

Engineering Manager | SmartPathAI @ Big Data Big Impact (Node, OpenAI, AWS)   August 2024 – May 2025
- Leading **Full Stack Development Subteam**, overseeing backend and frontend development for SmartPathAI's AI-driven personalized learning portal, **spearheading implementation of file embeddings, AWS's OCR, and LLM architecture**
- Enhancing **system efficiency and API integration** by 40% for optimized learning recommendations based on student performance through **improved database indexing and caching mechanisms**

API/AI Team Lead | HipHop2020 Innovation Archive (SQL, AWS, React, OpenAI)   August 2024 – May 2025
- Leading team in **development and management of SQL database** containing metadata and AI analysis for 500+ albums, songs, and artists, **engineering robust data pipelines leveraging AWS** for efficient storage, retrieval, and analysis
- Automating sample data collection by integrating Discogs API, designing **AI-driven insights for cataloging and automating metadata classification**, enhancing discovery and accessibility and reducing data-processing time by 20%

IT Operations Intern | Georgia Tech Research Institute | ELSYS Lab   May 2024 – August 2024
- Assembled application in Swift, SupportHub, to **consolidate critical information and side-step instruction** to reduce technical burden on end user while **making system information available** quicker for all 70+ active Mac users
- Spearheaded **implementation of OAuth 2.0 auth. model** to integrate UPS API within internal Asset Tracker system to allow for live updates on transit of ELSYS device packages to distant field offices and reduce need of various applications

PROJECTS

Amazon Text Review Analysis (Python)   August 2024 – December 2024
- Conducted **large-scale analysis on 5M+** Amazon reviews to identify correlations between textual sentiment and star rating
- Engineered a **machine learning model using NLP and sentiment analysis techniques**, capable of predicting and assigning objective star ratings to textual reviews, **optimizing data processing pipelines** to reduce analysis time

Concert to Playlist System (JavaScript, React, Node) | Personal   July 2024 – October 2024
- Designed and implemented full-stack web application to **automate Spotify playlist creation** for artist's concert setlist
- Integrated setlist.fm and Spotify APIs to **dynamically retrieve concert setlists** and generate curated playlists in **real-time, utilizing efficient API calls** to improve response time, enhancing user engagement and personalization

HipHop2020 Innovation Archive Online Exhibit (Omeka, Discogs API, SQL)   January 2024 – May 2024
- Developed a **scalable, cloud-based digital archive** to catalog and curate 500+ historically significant hip-hop albums
- Implemented **automated metadata retrieval and classification** using the Discogs API and SQL-based data pipelines leading to 35% increase in user engagement, **optimizing database queries to enhance search functionality**

TECHNICAL SKILLS & OTHER

Skills: Java, Python, JavaScript, HTML, CSS, Swift, R, C#, C, SQL, PHP, React, Node, Linux, Unix, Jira, AWS, OpenAI, LLM

Security Clearance: Secret level Security Clearance (2025 – Present)