

Yash Panchal

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EDUCATION

Georgia Institute of Technology

Atlanta, GA

B.S. in Computer Science

Expected December 2027

- **GPA: 3.92/4.00** | Concentration in Intelligence and Systems & Architecture
- Relevant Coursework: Data Structures & Algorithms, Object-Oriented Programming, Design & Analysis of Algorithms, Objects & Design, Computer Organization and Programming, Computer Systems and Networks

EXPERIENCE

Financial Research Intern

August 2023 – May 2024

GERLoftin

Johns Creek, GA

- Engineered automated data pipelines using YCharts API, Pandas, and Scikit-learn to automate financial data collection and analysis, improving financial research efficiency for an over **\$250 million** investment portfolio.
- Developed predictive analytics models to forecast stock performance, leveraging machine learning techniques and optimizing data visualization with Seaborn and Matplotlib, improving stock analysis efficiency by 2x.
- Collaborated with a team of seven interns to design and present data-driven performance forecasts for NASDAQ tech companies, applying quantitative modeling and statistical analysis in **Python** to guide investment decisions.

PROJECTS

Virtual Memory System Simulator | C, GDB, GCC, Systems Programming

March 2025

- Designed and implemented a virtual memory simulator in **C**, featuring address translation, page fault handling, and frame eviction algorithms, optimizing memory management for a 24-bit virtual address space with 16KB pages.
- Engineered robust memory access and swap space mechanisms using GDB for debugging, ensuring data integrity across a 20-bit physical memory system, and calculated Average Memory Access Time to evaluate performance.
- Applied systems programming principles to manage page tables and frame tables, enhancing simulator efficiency by integrating bitwise operations and leveraging Ubuntu 20.04 LTS for development and testing.

Re.Mind - Dementia Care Assistant App | Kotlin, TensorFlow, Firebase, Node.js

December 2024

- Developed an Android app in a team of 4 engineers using **Kotlin** and Jetpack Compose, integrating the Gemini LLM to successfully guide dementia patients towards recalling memories with a 90% success rate.
- Implemented on-device facial recognition with **TensorFlow Lite** and ML Kit Face Detection and built a real-time caregiver dashboard using **Firebase** (Auth, Firestore, Google Cloud Functions) reducing latency by over 50%.
- Built and expanded a RESTful API with Firebase Functions (Node.js) and Retrofit/Gson, implementing endpoints for real-time data operations; optimized API with caching and error handling.

Spotify Wrapped Experience App | Python, Django, JavaScript, HTML, CSS, Bootstrap

November 2024

- Led a team of 4 engineers as Scrum Master, Product Manager, and Full-Stack Engineer, developing a Django-based web app that integrates Spotify's API to generate personalized music insights and interactive games.
- Created a scalable RESTful backend with Django, optimized database queries, and built an intuitive **JavaScript, HTML/CSS**, and **Bootstrap** frontend for seamless user experience.
- Led the team through three agile sprints, applying SOLID design principles to ensure modular, maintainable code, improve system scalability, and adhering to SDLC best practices and compliance standards.

Market Sentiment & Investment Strategy Analysis | Python, Pandas, Numpy, PyTorch

February 2024

- Engineered a scalable data pipeline in **Python** using Alpha Vantage API, Pandas, and Numpy to process real-time financial data, generating stock scores based on fundamental and technical indicators.
- Integrated a RoBERTa model finetuned on Tweets for Twitter sentiment analysis, quantifying market sentiment and combining it with financial metrics for predictive modeling, resulting in positive returns in 98% of backtests.
- Designed and implemented a neural network in **PyTorch**, optimizing investment decisions by training on historical stock performance; top 50 ranking out of 5000+ teams in the UPenn Wharton Investing Competition.

TECHNICAL SKILLS

Languages: Python, Java, Javascript, HTML, CSS, Kotlin, C

Libraries/Frameworks: Django, Node.js, Pandas, NumPy, Scikit-learn, PyTorch, Matplotlib, JUnit, TensorFlow

Developer Tools: Git, Docker, Gradle, Maven, CI/CD, GDB, GCC, Firebase (Auth, Firestore, Cloud Functions)