Yash Panchal

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EDUCATION

Georgia Institute of Technology, Atlanta, Georgia — May 2027
Bachelor of Science in Computer Science, Concentration in Intelligence and Systems & Architectures — GPA: 3.92/4.00
Relevant Coursework: Computer Systems and Networks, Operating Systems, Intro to AI, Robotics & Perception, Digital Design Lab, Advanced Algorithms, Data Structures & Algorithms, Object-Oriented Programming, Computer Organization

PROGRAMMING SKILLS

Languages: *Python, C/C++, Java, JavaScript, TypeScript, HTML, CSS, Bash*
Frameworks & Libraries: *LangChain, PyTorch, FastAPI, Django, Next.js, React, Node.js, NumPy, Pandas, Scikit-learn, Transformers*
Developer Tool: *Git, Docker, Postman, VSCode, Jupyter, GDB, PDB, Linux (Debian & Ubuntu), Windows*
Cloud & Databases: *Google Cloud, AWS, Firebase, MongoDB, PostgreSQL, SQLite, ChromaDB*
Key Technologies: *RESTful API, LLM Integration, RAG, WebSockets, Systems Programming, CI/CD, Distributed Systems*

EXPERIENCE

Software Engineering Intern at Narb — Aug 2025 – Present
- Working on a no-code AI app builder for end-to-end application development and deployment using Langgraph & FastAPI.
- Built feature for autonomous deployment by integrating Docker and Google Cloud SDK allowing for one-click deployments.
- Implemented Chroma-DB powered RAG pipeline for context-aware code generation, **reducing LLM error rate by nearly 50%.**

AI Researcher at AI@GT — Aug 2025 – Present
- Finetuned a Hugging Face Vision Transformer to translate American Sign Language in real-time; deployed with OpenCV.
- Developing an SLM distillation framework to compress LLM capability into lightweight agents for edge deployment.

Software Engineer – Flight Software Team at GT Experimental Rocketry — Jan 2025 – Present
- Designed & maintained flight state machine and device manager in C, control deterministic transitions between flight phases.
- Collaborated with hardware and avionics subteams to ensure hardware-software integration and meet safety requirements.
- Refactored a **6000+ line legacy codebase** introducing a hierarchical design pattern for reliability, cut debugging time by 30%.

Intern at GERLoftin — August 2023 – May 2024
- Developed an automated data pipeline using Python and Pandas to ingest and clean equity data from the YCharts API.
- Performed predictive analytics with Random Forest, SVM, ARIMA, and other regression techniques in Scikit-learn.
- Delivered analytics reports that reduced team equity research time by 20%+, helping PMs manage a **$250+ million portfolio**.

PROGRAMMING PROJECTS & AWARDS

Jobly - AI-Powered Job Search Agent | *LangChain, FastAPI, Docker, MongoDB, Next.js* — June 2025 – Present
- Created an AI-powered job search app with Dockerized FastAPI backend and Next.js + Typescript frontend.
- Leverages asyncio, lightweight LLM & NER models, and Langchain for automated parsing of **1,000+ job URLs in <2 minutes**.
- Implemented job ranking engine using scikit-learn, spaCy, and MongoDB Atlas Search to rank match with resume and search.

IMC Prosperity Algorithmic Trading Competition - Top 0.5% (71/14,000+) — April 2025
- Researched and implemented algorithms in Python: mean reversion, statistical arbitrage, market making, options modeling.
- Conducted data analysis using PCA, time-series modeling, curve fitting on IV surfaces, etc. to analyze commodities.
- Optimized strategy parameters via grid search and custom backtesting framework **increasing realized profit by roughly 40%.**

Re.Mind - Dementia Care Assistant App | *Kotlin, TensorFlow Lite, Firebase, Node.js* — December 2024
- Developed Android app with Kotlin and Jetpack Compose, integrating Gemini LLM to conduct memory recall exercises.
- Implemented on-device facial recognition using TensorFlow Lite and Google ML Kit, helping patients identify loved ones.

Spotify Wrapped Experience App | *Python, Django, JavaScript, SQLite, CSS, HTML* — November 2024
- Led development of Django REST API, SQLite schema, and OAuth 2.0 authentication for user-specific Spotify analytics.
- Built frontend with JavaScript and Bootstrap; created drag-and-drop game and enabled in-app music via Spotify SDK.

UPenn Wharton Investment Competition – Top 1% (50/5000+) — February 2024
- Integrated a RoBERTa NLP model fine-tuned on Twitter sentiment data to quantify real-time market sentiment.
- Developed a deep learning model in PyTorch combining sentiment scores with financial metrics to find trade signals.
- Optimized portfolio allocation strategies to secure a top 1% ranking out of 5000+ teams **beating S&P500 in 98% of backtests.**

ADDITIONAL ACTIVITIES AND INTERESTS

Activities/Clubs: Brazilian Jiu Jitsu Club, Supercomputing Club, AI@GT, Trading Club
Interests: Competitive Strategy Games (Catan & Poker), Reading, Weight Lifting, Running, Football, Hiking, Jiu Jitsu