

Jack Stoltz

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EDUCATION

Georgia Institute of Technology

December 2027

BS Computer Engineering | Concentrations: Systems Architecture & Distributed Systems

GPA: 3.71/4.00

Coursework: Computer Architecture, GPU Programming, Processors, Advanced C++ Programming, Operating Systems, Machine Learning, Object-Oriented Programming, Data Structures, Algorithm Development, Discrete Mathematics, Probability, Statistics

EXPERIENCE

AMD

May 2026 – August 2026

Software Engineer Intern - CPU Performance Team

Austin, TX

- Engineered LLM agent over 4TB+ MongoDB of CPU experiment data via MCP, cutting perf triage from ~2 hrs to <5 min
- Automated IPC uplift computation for over 10K configs with Pandas ETL & SQLite caching, replacing manual comparison
- Ran e2e regressions across SoCs, tracking L3 hit rates, IPC, latency, & bandwidth in React UI adopted by SoC Arch. team

Intel

Jun 2025 – Dec 2025

Software Engineer Intern - GPU Validation Infrastructure Team

Chandler, AZ

- Built Python e2e data pipeline validating PSMI signal integrity through the GPU memory fabric, running nightly in the CI
- Debugged SystemVerilog RTL failures with waveform analysis and trace tooling, root-causing defects across the GPU stack
- Migrated ~3k lines of legacy Perl validation infra. to Python, validating output parity against the original implementation

AquaBots Lab (VIP) @ Georgia Tech

Jan 2026 – May 2026

Lead Undergraduate Researcher - Computer Vision Team

Atlanta, GA

- Spearheaded 6-person team in designing and implementing computer vision pipelines for salmon detection and classification
- Enhanced YOLOv8 with PyTorch CNN for depth-contour extraction, boosting detection mAP by 20% in underwater footage
- Evaluated fish scale classifiers with AlexNet and 2-stream architectures, achieving 80%+ accuracy on lab-annotated datasets

College of Engineering @ Georgia Tech

Jan 2026 – May 2026

Teaching Assistant - Programming HW/SW Systems (ECE 2035)

Atlanta, GA

- Taught recitations for 60+ students on dynamic/static memory allocation, register-level execution, and HW/SW interaction
- Held office hours weekly guiding students in debugging C++ memory faults, RISC-V assembly, and microcontroller projects

BrainBoost (VIP) @ Georgia Tech

Jan 2025 – May 2025

Undergraduate Researcher - AI/Software Team

Atlanta, GA

- Built Python NLP pipeline with NLTK parsing student math input into ASTs, classifying operators, operands, & identifiers
- Architected React frontend and SQL persistence layer enabling students to define and manipulate mathematical expressions
- Surveyed 200+ students on the math expression input sandbox, using results to guide interface and usability improvements

PROJECTS

Multithreaded OS Scheduler | C, pthreads, Linux

Apr 2026 – May 2026

- Implemented core scheduler logic in C for synchronizing up to 16 concurrent worker threads through a shared ready queue
- Built a thread-safe queue with pthread mutexes and condition variables, blocking idle threads to eliminate any busy-waiting
- Designed FIFO & Round-Robin policies with fine-grained locking across mutexes preventing deadlock & reducing contention

Offline RAG System (Hermedoc) | Python, LLaMA, LlamaIndex, Flask

Nov 2025 – Jan 2026

- Designed a secure fully offline RAG system enabling DoD-restricted industries to query their private data locally via LLaMA
- Generated embeddings with Hugging Face + LlamaIndex and managed local Chroma vector database for contextual retrieval
- Developed cross-functional React + Flask UI, streamlining data upload and chatbot interaction for non-technical end users

Vision-Controlled Robotic Arm | Python, C++, OpenCV, Arduino

Oct 2024 – Nov 2024

- Implemented real-time gesture recognition with MediaPipe and OpenCV, enabling webcam-based control of the arm's axes
- Interfaced Python vision pipeline with Arduino C++ firmware, allowing seamless actuation of the servo motors from gestures

TECHNICAL SKILLS

Languages: Python, C, C++, C#, Java, JavaScript/TypeScript, SystemVerilog, HTML5/CSS, SQL

Frameworks & Libraries: ReactJS, NodeJS, Flask, OpenCV, Pandas, PyTorch, TensorFlow

Tools & Platforms: Git/GitHub, Unix/Linux, PostgreSQL, MongoDB, Agile, Azure, Docker, AWS

Interests: Running, Traveling, Puzzles, Reading, Weight-Lifting, Films, History, Linguistics, Poker