Nathan Bai

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EDUCATION

Georgia Institute of Technology, Atlanta, GA May 2029
Bachelor of Science in Computer Science; GPA: 3.93/4.0
Relevant Coursework: Data Structures & Algorithms, Object-Oriented Programming, Computer Organization & Programming, Discrete Mathematics, Design & Analysis of Algorithms

TECHNICAL SKILLS

Coding Languages: Python, Java, TypeScript, JavaScript, Swift, C#, SQL, HTML/CSS
Frameworks & Libraries: React, Next.js, Node.js, SwiftUI, FastAPI, OpenCV, MediaPipe
Databases & Tools: Firebase, SQLite, Git, Docker, Terraform, AWS, Figma

WORK EXPERIENCE

Georgia Tech Contextual Computing Group **Atlanta, GA**
Undergraduate Researcher, Advisor: Thad Starner *March 2026–Present*

- Contributed head-camera recordings and picklist-labeled data to a dataset of 3,055 warehouse object picks, supporting a weakly supervised computer vision pipeline using MediaPipe for hand tracking and temporal action segmentation
- Co-authored research combining CLIP image embeddings with picklist-constrained optimization to recognize 120 warehouse objects, achieving 96.9% accuracy under shelf-constrained evaluation with 10-fold cross-validation

Improving Atlanta **Alpharetta, GA**
Software Engineering Intern *October 2023–May 2024*

- Developed an event coordination application using C#, SQL, and React to manage team registration and track challenge completion
- Designed and translated Figma mockups into React interfaces for score tracking and leaderboards at Improving's company-wide annual conference

PROJECTS

Alto
HackGT 13 *September 2026*

- Co-developed a multiplayer AI coding platform with Next.js and Electron, connecting collaborators to remote agent sessions with live activity updates
- Implemented organization management with Better Auth and SQLite, enforcing role-based project access for verified employees
- Built AWS EC2 provisioning with Terraform and Docker-based environments, supporting authenticated SSH access and automated recovery and cleanup

SideQuest
Georgia Tech iOS Club *February 2026 – April 2026*

- Built the frontend of a gamified travel iOS app using Swift and SwiftUI, defining the app architecture and creating a social feed for users to share quests
- Structured the Firebase backend for user profiles and global leaderboards, implementing CRUD operations and real-time data synchronization across the app

PushupPal
Hacklytics 2026 *February 2026*

- Built a Swift iOS app using OpenCV, MediaPipe and FastDTW to assess exercise form against reference movements, delivering Gemini-powered feedback through FastAPI

LEADERSHIP

Georgia Tech iOS Club
Senior Developer *August 2026 – Present*

- Defined the semester roadmap and app architecture for ~20 developers, evaluating feature feasibility and establishing technical direction using Swift, SwiftUI, and Firebase
- Lead an eight-person subteam building the app's social feed, assigning development tasks, coordinating feature implementation, and reviewing pull requests for code quality