

Fanhao Yu

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EDUCATION

Cornell University | College of Engineering

Bachelor of Science in Computer Science | GPA: 3.8

Ithaca, NY

Expected 2027

Relevant courses: Object Oriented Programming & Data Structures (Honors), Algorithms, Functional Programming

Campus involvements: Cornell AutoBoat (robotics), Cornell E.Motion (dance team), Chinese Students Association

SKILLS & TECHNOLOGIES

Languages: Java, JavaScript (ES6, React), Python, Swift, PHP, OCaml, HTML, CSS, SQL | **Tools:** Docker, Git |

Frameworks: computer vision (YOLO, OpenCV), machine learning (TensorFlow, PyTorch), LLMs (RAG model)

EXPERIENCE

Amphenol

June 2025 - present | Nashua, NH

Software Engineering Intern

PHP, MySQL, JavaScript, CSS

- Built an enterprise-grade internal inventory system with real-time tracking, advanced search, and multi-user authentication for employees to track 5000+ previously unmanaged items, equipment, parts, and products
- Designed a SQL DB schema with support for audit trails, role-based access, and complex item-location relationships
- Implemented secure backend with dynamic SQL queries, pagination, input sanitization, and RESTful patterns for future API integration, coordinated with IT to securely deploy the application on the internal Amphenol network
- Achieved 90% faster item lookup & locating and 75% reduction in data entry errors, improving team efficiency

Senna

May 2025 - present | Nashua, NH

Cofounder

Swift, Firebase, MVVM

- Developed a full-stack social fitness app featuring real-time workout tracking & social feed, available on App Store
- Architected 50+ Swift files using MVVM for modular features like auth, workout management, and media sharing
- Built comprehensive workout & progress tracking system with 200+ exercises, timers, logging, and reusable templates
- Designed social features including user profiles, follower system, activity feed, and media sharing (photos/videos)

Cornell AutoBoat

2024 - present | Ithaca, NY

Software Member

Python, computer vision, ROS

- Automated boat path planning by utilizing LiDAR and camera data with algorithms like A* and pure pursuit
- Implemented obstacle detection and avoidance with YOLOv8 and path planning for robot to compete in RoboBoat
- Assisted in writing motor control systems, collecting sensor data, and using ROS to integrate software components

University of New Hampshire Artificial Intelligence Lab

2022 - 2024 | Durham, NH

AI Researcher

Java, Python, Rust

- Published paper "Tunable Suboptimal Heuristic Search" to 17th International Symposium on Combinatorial Search
- Developed a new heuristic search algorithm, Speed*, that allows users to trade off search time for solution cost
- Designed and implemented novel search domains and tested Speed* against prominent algorithms like RR-d and wA*

PROJECTS

DuckDuckDebug

AI Voice-Based Debugging Assistant | React, Python, PyTorch, Node.js, LangChain, MongoDB

- Developed an AI voice controlled debugging tool combining the CodeBERT model (fine-tuned on CoNaLa dataset to relate code and NL) and RAG for intelligent assistance, retrieves relevant code from 20,000+ lines with 91% accuracy
- Integrated Whisper (speech-to-text) and ElevenLabs TTS for real-time voice interaction and hands-free debugging
- Engineered algorithm that recursively scrapes user's codebase and uploads to MongoDB for context while debugging
- Designed a scalable architecture with Python (FastAPI) and Node.js, built a dynamic React frontend with real-time code highlighting & animation, and leveraged LangChain + Chroma for vector-based semantic search

Munch

iOS Social Dining App | SwiftUI, Flask, OpenAI, Computer Vision

- Built a full-stack iOS food app that scans receipts and automatically extracts food items to split the bill in group settings with 12+ SwiftUI screens & Apple Maps, Google, and Venmo API; won Best Frontend (Cornell AppDev)
- Engineered AI receipt scanning pipeline using GPT-4 Vision, achieving 95%+ accuracy in item/price extraction
- Developed fuzzy matching system with GPT-3.5-turbo to semantically align receipt items with restaurant menus
- Created 20+ REST API endpoints with a relational DB schema supporting auth, reviews, and restaurant data

OTHER INTERESTS

Dance (hip-hop) | basketball | skiing | reading | fishing | coding & playing games | movies