

Ehsan Ayoubi

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EDUCATION

University of Central Florida

Aug 2023 – Dec 2026

Bachelor of Science in Computer Science, Minor in Mathematics | **GPA: 4.0/4.0**

Orlando, FL

Organizations: Sponsors for Educational Opportunity (SEO), CodePath, SHPE, Knight Hacks

Honors: Provost Scholar, Burnett Honors College

EXPERIENCE

Software Engineering Intern

Jun 2026 – Aug 2026

Goldman Sachs

Dallas, TX

- Automated previously manual tax form reconciliation for **1,600+** entities, validating each filing in 20 seconds
- Designed AI-generated PDF-to-XML field mappings at **98% accuracy**, evaluated on 427 hand-verified fields
- Reduced LLM mapping generation time from 10 to 4 minutes and token costs by **60%** via prompt caching
- Achieved **85%** test coverage in Python with unit and integration tests on PDF-to-XML structural mismatches

Software Engineering Co-op

May 2025 – Apr 2026

Bank of New York

Lake Mary, FL

- Developed a multi-agent pipeline saving **3,000+ hours** per month on anti-money laundering investigations
- Sped up market research per surveillance alert **~3x** via chained LLM search, validation, and ranking
- Designed a FastAPI backend with CI/CD, automated testing, and Oracle DB pipelines via Pandas
- Built an entity resolution pipeline matching **1M+ records/min** across different source IDs using Polars
- Led weekly Agile demos for senior leadership and investigators, turning workflow pain points into features

Undergraduate Researcher

Feb 2025 – Present

UrbanITY Lab – Honors Undergraduate Thesis

Orlando, FL

- Researched LiDAR sensor tilt angles for privacy-preserving overhead pedestrian tracking in dense crowds
- Built an Isaac Sim digital twin generating **60,000** labeled LiDAR frames with 100 unique pedestrian models
- Achieved **96%** 3D AP@0.5 on real-world LiDAR with an OpenPCDet PointPillars model trained on **zero** real data
- Wrote Slurm job scripts to process LiDAR data and train detection models on an NVIDIA H100 GPU cluster

Peer Tutor – Data Structures and Algorithms

Aug 2024 – Dec 2025

UCF Student Academic Resource Center

Orlando, FL

- Led 3 weekly group sessions of **10+ students** and 4 weekly one-on-one sessions teaching DSA in C
- Wrote practice problems and study guides, and led large exam review sessions, reaching **150+ students**

PROJECTS

YoinkDat | *FastAPI, Docker, YOLO, Supabase, CI/CD, Hetzner*

Mar 2026

- Enabled users with limited hand mobility to keep up in fast-paced lectures with drag-and-drop notes
- Fine-tuned a YOLO object detection model on PowerPoint slides, improving accuracy by **30%**
- Architected a Dockerized FastAPI backend with Supabase, deployed to Hetzner via a CI/CD pipeline

BlockQuote | *Python, FastAPI, React, OpenAI API* | *2nd Place, AI for Good Hackathon*

Nov 2025

- Built an AI survey engine that simulates resident responses to new housing proposals in minutes
- Grounded personas in census-tract demographics so responses reflect each district's actual residents
- Implemented a FastAPI and React workflow for planners to refine and chat with personas about plans

Insight UI | *Selenium, OpenCV, Tkinter, Gemini API*

Sep 2025

- Developed a webcam-only eye tracker showing UX researchers which page regions draw or divert attention
- Used the Gemini API to turn gaze results into accessibility suggestions (e.g., for users with ADHD)

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript, SQL

AI/ML: PyTorch, Fine-Tuning, RAG, MCP, Prompt Caching, Google ADK, Claude Code, Codex

Frameworks & Libraries: FastAPI, REST APIs, Pandas, Polars, OpenCV, React

Tools & Databases: Docker, Linux, Git/GitHub, GitLab CI/CD, Hetzner Cloud, Supabase, PostgreSQL, Oracle DB