

Arman Hassan

516-373-1256 | armanmansoorhassan@gmail.com | [LinkedIn](#) | [armanhassan.com](#)

EDUCATION

University of North Carolina at Chapel Hill

Chapel Hill, NC

Bachelor of Science in Computer Science — Minor in Data Science

August 2023 – May 2027

- Coursework: Data Structures, Algorithms, Systems, Computer Organization, Linear Algebra, Models of Computation, Machine Learning, Intro to AI, Mobile Computing, Hardware Security, Data Management

SKILLS

Languages: Python, TypeScript, JavaScript, C++, Java, SQL, HTML/CSS

Frameworks & Tools: FastAPI, Node.js, REST APIs, React, Next.js, React Native, Tailwind CSS, Playwright

Cloud & DevOps: AWS (S3, IAM), Vercel, Docker, Git, GitHub Actions (CI/CD)

Databases & Storage: PostgreSQL, Redis, pgvector, Amazon S3 Vectors

AI Engineering: OpenAI API, AWS Bedrock, RAG, Embeddings, Tool Calling, LLM Evals, Guardrails

EXPERIENCE

Timing

Remote

Software Engineering Intern

January 2026 – May 2026

- Built a **GPT-4o** agent using function calling and structured outputs to rank contacts from LinkedIn interaction history ingested via **OAuth**, replacing manual contact triage with automated priority scoring
- Implemented a **RAG pipeline** using OpenAI embeddings and **pgvector** similarity search over **1,000+ contact records** in **PostgreSQL**, retrieving relevant context to generate personalized outreach drafts
- Cut API latency by **80%** (**450ms** to **under 90ms**) with composite PostgreSQL indexes and **Redis** caching

UNC Chapel Hill

Chapel Hill, NC

Teaching Assistant (COMP 110)

August 2025 – December 2025

- Supported **200+ students** through weekly Python labs and office hours, diagnosing bugs and teaching control flow, functions, OOP, runtime analysis, and memory diagrams
- Reviewed and graded programming assignments, provided code-level feedback, and coordinated with course staff to address recurring student misconceptions

Vogro

Remote

Software Engineering Intern

May 2025 – August 2025

- Automated data transfer and cleanup across internal tools with Python scripts, deduplicating and validating records to reduce manual data-processing time by **40%**
- Built REST API integrations with **FastAPI** and **Node.js** connecting a React frontend, backend services, and third-party tools across **3+ releases** serving **500+ users**
- Reduced page load time by **20%** by eliminating redundant API requests and refactoring React components for improved performance on lower-end devices

PROJECTS

CourseCompass AI | [Live Demo](#) | [Code](#)

Chapel Hill, NC

Personal Project | Next.js, TypeScript, AWS Bedrock, S3 Vectors, GitHub Actions, Vercel

August 2026

- Built and deployed a degree-planning assistant covering 200+ UNC programs and tracks with cited answers
- Parsed catalog pages into structured records and indexed Titan embeddings in **S3 Vectors**
- Built a **RAG pipeline** with **AWS Bedrock**, Claude fallback routing, metadata-filtered retrieval, and citation guardrails to map courses from chat or photo/PDF uploads to remaining requirements
- Set up **CI/CD** with **GitHub Actions** running lint, type checks, and 80+ offline tests, plus Vercel deploys
- Built an 18-case live **LLM eval suite**, raising pass rate from an **11%** baseline to **100%**

Jev 2048 | [Live Demo](#) | [Code](#)

Chapel Hill, NC

Personal Project | Next.js, TypeScript, TypeSafe Jev, C++, Python, Oracle Cloud, Vercel

September 2026

- Built a controlled experiment implementing the general-purpose **TypeSafe Jev classifier** as a sequential decision policy to autonomously play 2048
- Benchmarked **five policies** using raw boards, structural features, expectimax, and pretrained n-tuple values
- Deployed a Vercel UI and authenticated Oracle Cloud API serving an MIT-licensed, **67.1M-weight C++ model**
- Two-seed pilot: mean score rose from **796** raw to **10,770** with features and **34,276** with expectimax guidance
- Processed **77,928 API requests** and **133.1M tokens** for **\$5.45**, demonstrating low-cost classification at scale

Arcade-Style Space Battle Game | [Code](#)

Chapel Hill, NC

Hack110 Hackathon — **1st Place** | Python, Pygame, OOP, Git

April 2024

- Won **1st place** at Hack110 by shipping a full Pygame arcade shooter end-to-end in under 24 hours
- Built core game systems including collision detection, enemy spawning, and progressive difficulty scaling