

OMAR RIZWAN

Software Engineer · Full Stack, AI/ML, and Backend Systems

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Education

Bachelor of Science in Computer Science

Jan 2024 – May 2027

University of Utah, Salt Lake City, UT

GPA: 3.6/4.0

- Dean's List 2023–2025 · Oxford University Consortium (Human Rights & AI, Oxford England) · ACM · Beta Theta Pi
- **Coursework:** Operating Systems, Data Structures & Algorithms, Databases, Distributed Systems, Machine Learning, Software Engineering I/II, Computer Architecture

Technical Skills

Languages: C#, Java, Python, C++, TypeScript, JavaScript, SQL, Golang

Frameworks and Tools: Angular, React, ASP.NET Core, Spring Boot, Blazor, Docker, CI/CD, Git, EF Core

Databases: SQL Server, PostgreSQL, MongoDB, ChromaDB (vector), FAISS, Redis

Cloud and Infrastructure: AWS (EC2, S3, RDS, IAM), REST API Design, Microservices, Background Jobs

AI/ML: RAG Pipelines, HuggingFace Transformers, Ollama, CUDA, PyTorch, TensorFlow, Scikit-Learn, Pandas, NumPy

Experience

Full Stack Software Engineering Intern

May 2026 – Present

Brenner Software, Salt Lake City, UT (Remote)

- Shipped **10+ production features** in **Angular, TypeScript, C# (.NET)** for a B2B SaaS platform serving **50+ fabrication shops**.
- Architected the **Build Kit** module end to end, establishing a reusable component pattern adopted by **2 other teams**.
- Delivered **REST APIs** and **SQL Server** data models that unblocked **3 downstream launches** and saved **\$100K+** in dev costs.

Software Engineering Intern (Part Time)

Jan 2026 – May 2026

Brenner Software, Salt Lake City, UT (Remote)

- Eliminated **N+1 queries** in the **EF Core** data layer, cutting average API response time **~40%** across **12+ endpoints**.
- Implemented **role based authorization** across **12+ endpoints**, securing access for **50+ enterprise tenants**.
- Tuned **SQL Server** queries and indexing, reducing dashboard load latency **~25%** under high traffic.

Machine Learning Engineer Intern

Sep 2025 – Present

University of Utah, Digital Matters Lab, Salt Lake City, UT

- Deployed a production **RAG search system** (React + Python) over a **59 GB Solr corpus** with **9M records**, replacing keyword search and increasing researcher query success rate by **~35%**.
- Cut average query latency from **800 ms to under 400 ms** by vectorizing the full corpus into **ChromaDB** with optimized indexing, achieving **50%** faster retrieval at production scale.
- Built **CUDA-accelerated** embedding pipelines ingesting **~1.2 M records/hr** (2× baseline); benchmarked **5+ chunking strategies** and **3 embedding models**, improving top 5 retrieval accuracy by **18%**.

Software Engineering Intern

May 2025 – Aug 2025

OneMain Financial, Salt Lake City, UT

- Migrated **3 legacy services** to a modern **C# / .NET** architecture with zero downtime cutover, handling **10,000+ daily transactions** across credit check and loan origination workflows.
- Optimized **5+ high traffic API endpoints**, reducing average response latency by **~30%** and cutting mean time to resolution for production incidents by **~40%** through structured logging and alerting.

Software Engineering Intern (Part Time)

Jan 2025 – May 2025

OneMain Financial, Salt Lake City, UT

- Automated loan auto approval workflows (TaskMaster, NuBuild) in **.NET (C#)**, processing **10,000+ daily applications** and eliminating **~25%** of manual underwriter reviews.
- Engineered **8+ SQL Server batch pipelines** with retry logic and real time failure alerting, reducing mean time to anomaly detection by **~50%** across all monitored production jobs.

Technical Projects

UDN RAG · Semantic Search Engine at Scale

Sep 2025 – Present

- Python, CUDA, HuggingFace, FAISS, ChromaDB, Solr
- Processed and vectorized **9 M+ records** from a **59 GB Solr** index; built CUDA optimized embedding pipelines with custom loss functions achieving **sub 400 ms** latency on the full corpus via FAISS + ChromaDB.

StudyAgent · Multi Agent LLM Study System

Jan 2026 – Apr 2026

- Python, Ollama, ChromaDB, SQLite, Streamlit
- Designed a multi agent architecture where specialized LLM agents (summarizer, quiz generator, explainer) coordinate through a shared **ChromaDB** vector store and **SQLite** state layer to deliver adaptive study sessions.

Spreadsheet Engine · Formula Evaluator with Dependency Resolution

- C#, HTML, JavaScript
- Implemented recursive formula evaluation with **DAG based dependency graph** and circular reference detection; supports real time cell updates across **1,000+ cell** workbooks with keyboard driven navigation.