Omer Sajid

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Education

University of Illinois Urbana-Champaign — Champaign, IL
Master's in Computer Science; Cumulative GPA: 4.00/4.00 — Jun 2027
Courses: Machine Learning, CUDA programming, Numerical Analysis

DePauw University — Greencastle, IN
Bachelor's in Computer Science; Cumulative GPA: 3.8/4.00 — Jan 2023
Activities: Resident Assistant; President, Society of Physics Students

Professional Experience

Yabla — Jersey City, NJ
Software Engineer, Machine Learning — Oct 2023 – Present

- Fine-tuned Qwen2.5-14B model using QLoRa on 2,000+ multilingual interlinear gloss examples, increasing task accuracy by 23% and reducing educator workflow from 4 hours to 5 minutes per video.
- Deployed model using vLLM with continuous batching and KV cache optimization, serving 1,000 requests per day.
- Optimized video search infrastructure by migrating from SQL-based queries to an inverted-index engine, eliminating user complaints by 98% and reducing latency from 1.5s to 150ms for 800,000+ daily requests.
- Built end-to-end data pipelines encompassing both real-time streaming and batch ETL architectures with visualization dashboards, monitoring 12 KPIs across user engagement, retention and revenue metrics.
- Spearheaded full-stack development of engagement suite featuring streaks, community chat, personalized curriculum, progress tracking, and phonetic speech recognition, increasing Monthly Active Users by 13% over 3 months.
- Engineered cross-platform integration between websites using server-to-server authentication and RESTful API.

Fermi National Accelerator Laboratory — Batavia, IL
Quantum Algorithm Developer — May 2022 – Sep 2023

- Developed generalizable quantum optimization algorithm using Variational Eigensolvers and Monte Carlo Metropolis sampling, achieving 95% ground-state accuracy across 8 to 85 qubit systems; published in Physical Review D.
- Implemented dimensional reduction for system compression, reducing memory requirement by 9x and simulation time from 48+ hours to 5 hours.
- Made data analysis pipeline processing thousands of quantum simulations, identifying critical system behaviors.

DePauw University — Greencastle, IN
Data Science Researcher — May 2020 – Aug 2021

- Simulated and analyzed millions of nuclear particles using C++ and R, applying Density Based Clustering algorithm to optimize UCNtau experiment's equipment design, resulting in 13% increase in particle detection.
- Developed a distributed time-series analysis pipeline in Python and Bash for 12 years of Fermi-LAT gamma-ray data, implementing maximum likelihood and spectral analysis to extract light curve for Crab Nebula.

Teaching Assistant, Computer Science — Jan 2021 – Dec 2021

- Mentored undergraduate students with Java programming and Object-oriented programming concepts.
- Guided students through their capstone projects through interactive debugging sessions.
- Conducted 10 hours of weekly office hours providing individualized mentorship and code reviews.

Technical Skills

Languages: Python, C++, JavaScript/TypeScript, PHP, Rust, Swift, Java, R
Technologies: AWS, Docker, Vagrant, Git, PostgreSQL, Laravel, React.js, Node.js
ML: PyTorch, NumPy, Transformers, Gymnasium, Weights & Biases, Pandas, Scikit-learn