

Mohsin Khawaja

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Education

University of California, San Diego

Aug 2021 – June 2025

B.S. – Cognitive Science: Machine Learning & Neural Computation, Minor: Computer Science

Relevant Coursework: Machine Learning, Large Language Models, AI Algorithms, Computer Vision, Data Structures & Algorithms, Brain Computer Interfaces, Computational & Quantitative Finance

Leadership & Initiative: Founder & VP, Muslim Tech Collaborative | Board Member, SDx | Captain, Men's Club Soccer

Experience

Amazon

June 2025 – Aug 2025

Data Analysis and Persona Strategy (Contract)

Remote

- Analyzed **12K+** employee feedback entries across **6** regions using Python and NLP, performing feature extraction and sentiment classification, achieving **91% accuracy** while uncovering key workforce trends to guide HR strategy.
- Developed a full-stack workforce analytics pipeline, from web scraping to sentiment modeling and dashboarding, that delivered **3 data-backed intervention strategies**, shaping Amazon HR's **Q3** resource allocation.

UC Berkeley College of Engineering Research

June 2024 – June 2025

Machine Learning Engineer

Berkeley, CA

- Developed a brain-computer-interface pipeline that classifies motor intent for real-time robotic-exoskeleton control, achieving a **87% online accuracy** with a **120 ms end-to-end inference latency**.
- Engineered and fine-tuned end-to-end ML models (time-frequency analysis + PCA + cross-validation), achieving a **91% F1-score** and **40% model-size reduction** for efficient on-device deployment in real-time applications.
- Designed and prototyped a low-power biosensing module that fuses silicon-electrical and neural-electrical interfaces, reducing energy consumption by **32%** and enabling **48-hour** continuous monitoring for stroke-rehabilitation wearables.

InterestingSoup

May 2023 – Aug 2023

Software Engineer Intern

San Francisco, CA

- Developed and deployed scalable RESTful APIs using Python and Flask, optimizing performance to reduce response time by **30%** and supporting a **20%** increase in concurrent users across multiple services.
- Led a team of **4** engineers to develop a real-time content-creation analytics dashboard with React and Chart.js, supported by a robust API exposing key engagement metrics including average view duration, click-through rate, follower growth, and user interaction trends, driving a **25%** improvement in data-driven optimizations and overall platform performance.

Projects

EvoScope – Advanced AI Trading System | *PyTorch, Deep Q-Network, RL, Blockchain*

- Built an AI trading system using LSTM networks and Deep Q-Network reinforcement agents for both crypto and traditional markets, achieving **94.2%** prediction accuracy, a **2.52 Sharpe ratio**, and a **79.4% win rate**, while optimizing for latency, risk-adjusted returns, and robust portfolio performance under volatile market conditions.
- Engineered **real-time** data infrastructure to ingest live market feeds across crypto and traditional exchanges, enabling automated trade execution with blockchain-based settlement for enhanced security.
- Deployed a multi-model architecture that ensembles sequence models and RL agents to optimize trading decisions in real-time, adapting dynamically to market volatility and shifting asset trends.

LLM Political Evaluation | *NLP, LLM, Political Analysis, Bias Detection*

- Built a comprehensive evaluation framework to analyze political bias and response consistency across **5+** large language models, leveraging **100+** prompt variations and Automatic Prompt Evaluation techniques.
- Systematically quantified ideological sensitivity and linguistic stability, producing actionable metrics that advance transparent and socially-aware AI systems through rigorous natural-language-processing methodologies.

NeuroFocus – EEG-Based Attention State Classification | *TensorFlow, scikit-learn*

- Engineered an ML pipeline classifying cognitive attention states from EEG signals with **90%** accuracy using neural frequency band feature extraction and SVM, LSTM, and CNN models. Implemented real-time cognitive state monitoring with feedback visualization for neuro-feedback and brain-computer interface applications.

Technical Skills

Languages & Libraries: Python, R, Java, JavaScript, TypeScript, SQL, C++, PyTorch, TensorFlow, React, Docker, Firebase, Bash, Git, AWS, Postman, APIs, Webhooks, NLP, LLMs, Prompt Engineering, Computer Vision, Bash, Swift