Mohsin Khawaja

Berkeley, CA | 510-949-7141 | mkhawaja@ucsd.edu | linkedin.com/in/mohsin-khawaja | mohsinkhawaja.com

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, achieving **91% sentiment classification accuracy** and uncovering key workforce trends.
- 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), reaching a **91% F1-score** and a **40% model-size reduction** for on-device deployment.
- 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 **Aug 2024 – Present**

Software Engineer Intern *San Francisco, CA*

- Developed and deployed scalable RESTful APIs using Python and Flask, reducing response time by **30%** and supporting a **20%** increase in concurrent users.
- Led a team of **4** engineers to create a **real-time content-creation analytics dashboard** with React and Chart.js, supported by a functional API exposing metrics such as average view duration, click-through rate, and follower growth, leading to a **25%** improvement in data-driven optimizations.

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, achieving **94.2% prediction accuracy**, a **2.52 Sharpe ratio**, and a **79.4% win rate**.
- 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 under volatile market conditions.

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 for neuro-feedback and brain-computer interface applications.

Technical Skills

Languages & Libraries: Python, JavaScript, TypeScript, SQL, C++, TensorFlow, React, Docker, Firebase, Bash, Git, AWS, Postman, APIs, Webhooks, LLMs