Umer Cheema

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Education

University of Waterloo Waterloo, ON

BCFM, Honours Computer Science and Financial Management (Co-op)

- Coursework: Financial Markets, Algorithm Design Data Structures,Financial Reporting,Functional Programming, Calculus I, II, Linear Algebra, Discrete Math

Experience

Software Engineer Intern, Krownie Toronto, ON

AI-Powered Voice Interview Platform *May 2025 – Aug 2025*

- Built real-time voice interview pipelines using OpenAI API and Retell AI, managing prompt chaining and session state across multi-turn candidate interviews.
- Architected serverless backend infrastructure on AWS Lambda and S3 with Supabase PostgreSQL to persist transcripts and interview state across sessions.
- Reduced interview failure cases by improving prompt robustness and handling edge cases in speech transcription and LLM responses across multi-turn conversations.

Finance Intern, Katsah.com Remote

E-Commerce Platform *May 2024 – Aug 2024*

- Identified and quantified funnel leakage through SQL-based data analysis and KPI tracking, recovering 50–60% of lost conversions and generating direct revenue impact.
- Built financial models in Excel to analyze month-over-month revenue variance, identifying pricing and marketing spend as key drivers of short-term sales fluctuations.

Projects

Machine Learning Robo-Advisory System

Python, Pandas, NumPy, yfinance, Scikit-learn

- Built a monthly stock-selection system across 50 large-cap US equities using an LR/RF/GBM ensemble with 10 engineered features including momentum, RSI, volatility, and beta; walk-forward validated across 23 out-of-sample periods.
- Implemented fractional Kelly sizing (25% fraction, 20% cap) and GMM regime detection scaling exposure to 100/75/50%; attribution analysis identified regime overlay as driver of 40% of excess return over benchmark.
- Achieved +67.7% total return vs +46.3% SPY over Feb 2023–Dec 2024, Sharpe 1.89, max drawdown 8%, net of transaction costs and rebalancing friction.

Cricket Match Outcome Predictor, ICC T20 World Cup 2026

Python, Pandas, Scikit-learn

- Trained a logistic regression model on 10+ years of T20I match data using Elo ratings, recent form, head-to-head records, and toss impact as features.
- Blended model output 70/30 with official ICC rankings to ground predictions in current team strength; achieved 85% group stage accuracy on the live 2026 tournament.

SubTrack, Subscription Spending Tracker

FastAPI, PostgreSQL, JavaScript, HTML/CSS, Vercel

- Co-built a full-stack web app with per-user dashboards tracking monthly burn rate, annual cost, category breakdowns, and top-3 spending highlights.
- Designed and implemented the FastAPI backend and PostgreSQL schema alongside a vanilla JS frontend.

Technical Skills

Languages: Python, C, JavaScript, TypeScript, Racket, SQL, C++, Haskell, GO, Java, C#, R, HTML/CSS,
Libraries: Pandas, NumPy, Scikit-learn, Matplotlib, SciPy, Statsmodels, Seaborn, QuantLib
Frameworks: Next.js, React, FastAPI, Node.js, Flask, TensorFlow , LangChain
Systems: AWS (Lambda, S3), Supabase, Git, Linux, Jupyter, VS Code, PowerBI, Excel
Concepts: Data Pipelines,Risk-Adjusted Evaluation, Financial Reporting, GAAP, ASPE, IFRS