

MANSOOR MAMNOON

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EDUCATION

University of California - Berkeley

Bachelor's, Computer Science

August 2023 - May 2027

GPA: 3.98

PROFESSIONAL EXPERIENCE

Amazon

Seattle, WA, USA

Software Development Engineer Intern – Backend & Distributed Systems

May 2025 - August 2025

- Architected and shipped an end-to-end, real-time occupancy monitoring platform, from ingesting live data from 100+ IoT sensors to frontend visualization, piloted across 4 Amazon buildings.
- Built a scalable, fault-tolerant backend pipeline using AWS Lambda, SQS, DynamoDB, and Timestream, processing 10K+ streaming events/min with P99 latency < 900ms.
- Engineered a real-time React dashboard with live occupancy visualizations (<1s data freshness), enabling operations teams to monitor usage across facilities in real-time.

BLCK UNICRN

Berkeley, CA, USA

Software Engineering Intern

September 2024 - December 2024

- Engineered a scraping and ranking system using Python, BeautifulSoup, and pandas, optimized via custom trie-based prefix matching and vectorized scoring, reducing runtime by 5× across 200+ client profiles.
- Designed a weighted lead ranking algorithm that scored prospects on post frequency, keyword density, and engagement signals, enabling automated prioritization in outreach workflows.
- A/B tested targeted outreach across Apollo CRM, LinkedIn, and email, improving contact conversion by 25%, and pipelining feedback into internal analytics dashboards

PROJECTS & OUTSIDE EXPERIENCE

Offline RL Agent – Custom Reinforcement Learning System - [Link to project](#)

Seattle, WA, USA

Software Development Engineer (Independent Project)

May 2025 - June 2025

- Developed a custom Gym environment with dual observation channels and delayed reward functions, simulating high-dimensional control tasks with ~10⁶ state transitions per training run.
- Implemented an offline RL training pipeline in PyTorch, featuring a prioritized replay buffer (± 0.6 , ± 0.4), batch reward normalization, and dynamic ϵ -greedy exploration—achieving ~92% average reward recovery from expert trajectories.
- Benchmarked Conservative Q-Learning (CQL) and DQN across 8 random seeds, analyzing variance, convergence speed, and sample efficiency; achieved ~30% lower regret compared to baseline DQN under identical rollout constraints.

Edge Deployer – Serverless IDE for Multi-Cloud Deployment - [Link to project](#)

Berkeley, CA, USA

Software Engineer (Independent Project)

March 2025 - May 2025

- Engineered a desktop IDE using Electron, React, and TypeScript to deploy serverless APIs across AWS Lambda@Edge, Cloudflare Workers, and Vercel Functions via one-click multi-cloud workflows.
- Integrated infrastructure-as-code (IaC) generation using Terraform, dynamic configuration, and live preview via Monaco Editor—enabling production-grade deployments with zero CLI interaction.
- Designed a fully offline-compatible build pipeline, benchmarked to support 1K+ concurrent requests/sec, simulating cold-start behavior and cross-cloud latency tradeoffs in edge environments.

Order Book Engine – High-Performance Trading Infrastructure - [Link to project](#)

Berkeley, CA, USA

Software Engineer (Independent Project)

July 2025 - August 2025

- Built a C++20 matching engine with intrusive FIFOs, slab allocators, and cache-hot ladders, achieving 20M+ msgs/sec throughput with sub- μ s median latency; validated determinism via snapshot/resume replay proof with bit-for-bit fill equivalence.
- Designed an end-to-end analytics + backtesting pipeline (Python, Parquet, Docker, Streamlit) to replay real Binance BTCUSDT data, compute microstructure metrics (spread, microprice, volatility, impact curves, order-flow autocorr), and evaluate VWAP/TWAP/POV/Iceberg strategies with reproducible PnL & risk metrics.

SKILLS

Skills: Python, TypeScript, Java, C#, C/C++, SQL, React.js, Node.js, Pytorch, Pandas, NumPy, BeautifulSoup, Scikit-learn, Electron.js, AWS (Lambda, SQS, DynamoDB, Timestream, CDK), Docker, Terraform, CI/CD, CloudWatch, Distributed Systems, Event-driven Architecture, Real-time Data Pipelines, Infrastructure as Code (IaC), Observability (logs, metrics, alerts), Reinforcement Learning, Offline RL, Time Series Analysis, Optimization, Probability & Statistics, Linear Algebra, Git / GitHub, VSCode, Postman, Jupyter, Apollo CRM, Google Sheets (scripting & data handling), System Design, A/B Testing, API Design, Performance Optimization, Product Thinking, Git