Omar Tawfik

New York, NY | (917) 993-2937 | otawfik@bu.edu
otawfik.com | github.com/otawfik | linkedin.com/in/omar-tawfik11

Education

Boston University, Questrom School of Business Boston, MA
MS, Business Analytics *Expected 2027*
- Dean's Scholarship recipient
- Relevant Coursework: Supervised & Unsupervised ML, Neural Networks, Generative AI, Analytics Pipelines, Optimization

Boston University Boston, MA
BA, Economics & Computer Science, Business Administration & Management Minor *May 2026*
- Dean's List: Fall 2025, Spring 2026 | United Economics Association | Sports Business Club
- Relevant Coursework: Machine Learning, Artificial Intelligence, Data Structures & Algorithms, Econometrics, Software Engineering

Experience

Founder & Full-Stack Engineer Boston, MA
PODS, Early-Stage Startup *Jan 2026 – Present*
- Founded and led a student team building a campus platform for short-term, activity-based groups; grew to 50+ active users, reached the semifinals of an $80K venture competition, won a BU Innovate grant, and raised a seed round
- Engineered token-auth REST APIs, a normalized SQL schema, and real-time notifications using Python, Flask, React, and AWS
- Built an LLM agent for group matching with tool calls, context and state management, replacing manual coordination

Software Engineer Intern New York, NY
YW Apparel New York | Mome Choix (Shopify E-Commerce) *Jun 2025 – Nov 2025*
- Designed and launched a custom Shopify storefront in HTML, CSS, and Liquid, using funnel analytics and A/B testing to rebuild the highest-drop-off checkout steps and drive a 25% increase in conversion rate
- Built gift-set and family-matching bundles and automated catalog and marketing workflows through Shopify API integrations

AI Engineer Intern London, UK
PortF, Early-Stage Fintech *Feb 2025 – Apr 2025*
- Built and deployed a production AI agent that sourced leads, enriched them through Clay, and wrote them to the CRM via APIs, choosing its own tool calls and rerouting failed steps so one bad record never stopped a run
- Added an LLM evaluation step that checked every generated email against approved messaging and held failures for human review, keeping deliverability healthy at 100K+ emails a month
- Generated 10+ qualified B2B meetings that converted into paying clients

Data Analyst Intern New York, NY
United Nations *Jun 2024 – Sep 2024*
- Built Power BI and Tableau dashboards adopted by 6+ departments for executive-level reporting
- Engineered SharePoint data pipelines consolidating siloed department datasets into a shared reporting layer for 50+ staff
- Defined reporting requirements through stakeholder interviews, translating complex datasets into decisions

Projects

FootSnap: Football Card Game & Match Forecasting on Live Data 2026
TypeScript, React Native, Statistical Modeling, Computer Vision, Serverless | github.com/otawfik/Footsnap | footsnap-app.vercel.app
- Built and shipped a cross-platform (iOS, Android, web) card game in strict TypeScript that auto-generates ~3,000 player cards from live data across six competitions, with a turn-based duel engine and an AI opponent
- Forecast every match with a Poisson goals model fit by maximum likelihood, validated by walk-forward backtests on Brier score against two baselines, and simulated each season 3,000 times by Monte Carlo with parameter uncertainty
- Built a computer-vision art pipeline (U-2-Net background removal, YuNet face alignment, automated quality gates) that produced 774 license-credited player cut-outs
- Served every user at $0 under a 10-requests-a-minute API via a secured, edge-cached serverless proxy; 137 unit tests run in CI

Deep Q-Learning Agent for Multi-Agent Risk Spring 2026
Boston University | Java, Deep Reinforcement Learning | github.com/otawfik/Risk-Deep-Q-Learning
- Built a dual-decoder deep Q-network from scratch in Java with no ML libraries; won 72% of head-to-head games and matched a 30-rollout MCTS agent using a single forward pass
- Diagnosed a degenerate turtling policy back to the reward signal, then traced multiplayer losses to the encoder compressing all opponents into two values and proposed a permutation-invariant fix

Technical Skills

Languages: Python, Java, TypeScript, JavaScript, SQL, R, HTML/CSS
Machine Learning & Stats: Supervised & Unsupervised Learning, Deep & Reinforcement Learning, Statistical Modeling, Monte Carlo
GenAI & Agents: LLM Agents, Tool Calling, Orchestration, RAG, LLM Evaluation & Guardrails, Computer Vision
Frameworks & Libraries: React, React Native, Expo, Flask, Node.js, pandas, NumPy, scikit-learn, TensorFlow
Cloud & Tools: AWS, Vercel, Docker, Git, CI/CD (GitHub Actions), PostgreSQL, Claude Code (daily)
Analytics: Power BI, Tableau, Excel (Advanced), Google Analytics, A/B Testing
Languages Spoken: English (Native), French (Fluent), Arabic (Fluent), Spanish (Conversational)