

AMMAAR ALAM

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EDUCATION

Princeton University (GPA: 3.85/4.0)

Princeton, NJ

Bachelor of Science in Engineering - Computer Science

Jul 2023 – May 2027

Minors: Statistics and Machine Learning; Optimization and Quantitative Decision Science

Relevant Coursework: Data Structures and Algorithms | Systems Programming | Theoretical CS | Machine Learning | Optimal Learning | Regression and Time Series Analysis | Optimization | Computer Architecture

EXPERIENCE

Ultimate Kronos Group (UKG)

May 2025 – Aug 2025

Software Engineer Intern

Weston, FL

- Slashed CI wall time **41%** and GCP storage **-\$9.3k/mo** by adding shard-aware artifact caching, concurrent dependency resolution, and lifecycle/dedup policies; kept **>95%** pipeline success and **99.95% release SLO**.
- Cut MSI upgrade validation **95%** (48h to 2-3h) and enforced as an org-wide PR gate by engineering an unattended end-to-end upgrade validation pipeline that processes **28 integration pods** in parallel using GitHub Actions and GCP buckets.
- Accelerated development by engineering AI-integrated workflows (Claude Code/Codex-CLI) with Slack/Jira Model Context Protocol (MCP) servers; created prompt-engineering documentation used for engineer onboarding.

TigerApps

Sep 2024 – Present

Lead Software Developer

Princeton, NJ

- Drove **850+ daily users** and **112K+ total conversations** by building a production RAG AI campus-assistant using MongoDB vector search, custom retrieval architecture, and Google Places API MCP servers.
- Reduced memory usage by **65%** across 6 applications serving **94% of the student body** by profiling bottlenecks with memory heap dumps, and implementing object pooling for frequently created instances.

Dell Technologies

May 2023 – Aug 2023

Machine Learning Intern

Miami, FL

- Achieved **4% performance improvement** (faster response time, higher CSAT) by optimizing conversational AI chatbot through A/B testing and NLP pipeline tuning (intent classification, entity extraction).
- Increased product click-through rate by **6%** by enhancing recommendation engine with improved ranking algorithms and feature engineering on user behavior data.

PROJECTS

TigerType (Founder) | *React, Node/Express, WebSockets, PostgreSQL, GitHub Actions*

Sep 2024 – Present

- Scaled to **1,800+ daily users** (20% of campus) handling **1.2M+ races** and **119M+ words typed** by developing real-time multiplayer typing game with SSO authentication, matchmaking, and leaderboards.
- Maintained state consistency across **880 concurrent lobbies** with **sub-40ms p99 latency** by designing high-performance synchronization engine using WebSocket architecture and optimized database queries.

Off-Policy Evaluation Research | *Python, Statistical Modeling*

Sep 2025 – Present

- Developing two-stage doubly-robust evaluator for reciprocal recommendation systems; building open-source benchmark with synthetic data generator and reproducible evaluation framework for ML experimentation.

OpenAI Codex CLI (Open Source) | *Rust, TUI Development*

Aug 2025

- Contributed **PR #3186** implementing keyboard shortcuts overlay with efficient event handling; refactored TUI rendering logic improving performance and maintainability; tracked for v0.43+ release.

IoT Door Control System | *C++, Arduino (ESP32), Cloud APIs*

Jun – Oct 2024

- Built door control system and backend API serving **40+ dormitories**, processing **1K+ daily** access requests with **<50ms** response time; designed PostgreSQL audit schema and implemented JWT authentication

TECHNICAL SKILLS

Languages: Java, Python, C/C++, JavaScript, Bash, SQL, R

Technologies: React, Node.js, Express, Flask, PostgreSQL, MongoDB, Redis, WebSockets, REST APIs

Tools & Platforms: Git, GitHub Actions, Docker, AWS, Google Cloud Platform (GCP), Terraform, Ansible, Linux