

# Mohammad Pervaiz

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## EDUCATION

**Queens College, City University of New York**

**May 2027**

Bachelor's in Computer Science

**GPA: 3.8 / 4.0**

**Leadership:** Former President, Code for All (2K+ members); IAC Fellow (1 of 20 nationwide; \$20K grant for an NPO)

## EXPERIENCE

**Bloomberg LP**

**June 2026 – August 2026**

Software Engineering Intern (Returning)

New York, NY

**Bloomberg LP**

**June 2025 – August 2025**

Software Engineering Intern

New York, NY

- Built a production-grade Kafka-based CDC pipeline for 26K+ employees, replacing inefficient batch jobs
- Delivered IAM-guarded updates from 5+ upstream services by implementing batching in a distributed system
- Engineered exactly-once payload delivery guarantees via Kafka transactions to 3+ downstream ETL consumers
- Achieved monitoring coverage for all error paths by adding alerts via dashboards for logging and telemetry

**Morgan Stanley**

**December 2024 – January 2025**

Software Engineering Intern

New York, NY

- Expanded coverage for 10+ JSON fields in a validation REST API with schema checks before deprecation
- Prevented potential outages by blocking invalid payloads, ensuring data integrity for dependent trading systems
- Wrote unit tests for 20+ API endpoints and collaborated with compliance to meet regulatory requirements

**People Inc**

**June 2024 – August 2024**

Software Engineering Intern

New York, NY

- Shipped user-facing features for People.com (8M+ daily visits) and Entertainment Weekly (1M+ daily visits)
- Scaled site functionality for 270M+ monthly viewers, avoiding regressions by profiling ad-serving paths
- Standardized development across 40+ brands by integrating reusable components into People Inc's monorepo

## PROJECTS

**Multiplayer Game Server** | C++, CMake, Winsock2, TCP Sockets, MinGW-w64

[GitHub](#)

- \* Built a TCP multiplayer game with client threads, an authoritative server, real-time chat, votes, and roles
- \* Designed a packet protocol for chat and votes with a thread-safe queue, socket I/O, and round updates
- \* Set up CMake builds on Windows via Winsock2, clean shutdown, disconnect handling, and client recovery

**In Memory Cache** | Python, Gevent, TCP Sockets, Redis Serialization Protocol

[GitHub](#)

- \* Achieved 7.1K ops/sec with success under load, sustaining 6K+ ops/sec with up to 20 concurrent workers
- \* Optimized request path for 0.26ms avg GET latency and 0.34ms avg SET latency in single-threaded tests
- \* Implemented RESP over TCP sockets with async networking, supporting GET, SET, TTL, and AOF persistence

## SKILLS

**Languages:** Python, C++, Java, SQL, Bash

**Technologies:** Kafka, Redis, PostgreSQL, MongoDB, FastAPI, Docker, Linux, Git, Grafana, Humio

**Interests:** Distributed systems, Networking, Infrastructure