

Mohammad Pervaiz

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EDUCATION

Queens College, City University of New York <i>Bachelor's in Computer Science</i>	May 2027
	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 <i>Software Engineering Intern (Returning)</i>	June 2026 – August 2026 New York, NY
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Bloomberg LP <i>Software Engineering Intern</i>	June 2025 – August 2025 New York, NY
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- Built a production-grade Kafka-based CDC pipeline for 26K+ employees globally, 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 poller error paths by adding alerts via dashboards for logging and telemetry
- Developed 150+ automated unit, integration, and system tests within Docker, securing ~90% code coverage

Morgan Stanley <i>Software Engineering Intern</i>	December 2024 – January 2025 New York, NY
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- 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 <i>Software Engineering Intern</i>	June 2024 – August 2024 New York, NY
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- 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++17, CMake, Winsock2, TCP Sockets, MinGW-w64	GitHub
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- Built a TCP multiplayer game server with client threads, an authoritative state, real-time chat, votes, and roles
- Designed a packet protocol for chat and votes with a thread-safe queue, socket I/O, and round-based updates
- Set up CMake builds on Windows via Winsock2, clean shutdown flow, disconnect handling, and client recovery

In Memory Cache Python, Gevent, TCP Sockets, Redis Serialization Protocol	GitHub
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- 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