

JOSE PEREZ

☎ 508-373-8228 ✉ jjimenez1@wpi.edu  [linkedin.com/in/josempj](https://www.linkedin.com/in/josempj)  github.com/josemanuel657

Education

Worcester Polytechnic Institute

Computer Science (BS) | Artificial Intelligence (MS) — **GPA: 4.0**

May 2026

Worcester, MA

Skills

Languages: C++, Python, Rust, Java, SQL, Bash, MATLAB, PyTorch, TensorFlow, Hugging Face.

Tools: Docker-compose, Kubernetes, AWS, Redis, RabbitMQ, Prometheus, Grafana, Humio, Git, Jira.

Experience

Bloomberg | SWE Intern | New York, NY

May – Aug 2025

- Built a distributed C++ rate-limiting library with Redis and sharded DBs, enabling 3 internal teams to reliably enforce tiered quotas on 10K+ daily requests across MARS workflows.
- Instrumented real-time cost monitoring via macros, logging 9K+ metrics/day to Humio and Grafana.
- Achieved 80% unit-test coverage, created docker-compose integration tests for Redis/DB clusters to ensure regression safety in CI pipelines, and built a multi-threaded stress tester to validate peak load performance.

ViaSat, WPI | Networks Research | Worcester, MA

Nov – May 2024

- Evaluated a custom congestion control algorithm for high-latency satellite links, achieving 20% higher TCP throughput than Hystart by preemptively exiting the slow-start phase to reduce packet loss.
- Automated data capture (PCAP, logs) using Python, iperf3, and SSH for 140+ connections across 7 sites.
- Streamlined performance analysis & benchmarking, saving ~15 hours/week and guiding future optimizations

WPI Math Department | Numerical Methods Research | Worcester, MA

Jun – Aug 2023

- Researched real-time heat transfer solvers for PDE's using MATLAB, focusing on room cooling efficiency.
- Implemented the heat equation as a recursive matrix system over vertex meshes using the FEM method.
- Identified top 3 room layouts for cooling efficiency using L^2 and L^∞ norm analysis.

WPI CS Department | Teaching Assistant | Worcester, MA

Aug 2023 – Current

- Led labs, graded exams & provided 150+ students 1:1 support across 9 CS courses (OS, ML, etc.).

Projects

NVIDIA, WPI | Upcoming MQP | San Jose, CA

Oct – Dec 2025

- Apply RAG to enforce coding security standards on NVIDIA DriveOS, improving compliance and reliability.
- Evaluate AI-assisted workflows (Aider, Cursor, Gerrit) for automated detection & fixing of rule violations.

Mass General Brigham, WPI | SWE Collaboration | Boston, MA

Mar – May 2024

- Led pathfinding systems for a hospital navigation app (React, Express, PostgreSQL) deployed on AWS.
- Integrated authentication, service modules, analytics and map editing features as part of a 10-person team.
- Led 5-engineer sub-team: ran scrums, collected 30+ requirements, and designed 4 UML pathfinding models.

Deep Q-Learning Network

Sep – Dec 2024

- Trained a DQN agent on WPI's Turing cluster using PyTorch to master the Atari game Breakout.
- Achieved an average reward of 220 points over 100 episodes using *Rainbow* optimizations, including prioritized experience replay, double Q-learning, dueling architecture, multi-step learning, and noisy networks.

Moodle Android App

Mar – May 2025

- Developed a mental health journaling app using Jetpack Compose, SQLite, and MVVM architecture.
- Integrated Gemini to support conversational entries, sentiment analysis, mood tracking and insights.

Leadership & Volunteering

SHPE — Led networking events and mentorship for the Hispanic community at WPI.

Upsilon Pi Epsilon (CS Honor Society) — Recognized for academic excellence in Computer Science.

GUTS++ Team Winner — Math/Game Theory Competition, Jane Street, NYC (Aug 2025).