

Zhitong Liu

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PROFESSIONAL EXPERIENCE

Software Engineer (IT Engineer I)

September 2025 – Present

TJX Companies

Framingham, MA

- Made cart search 18x faster (2.7s to 150ms) for 1000+ daily searches by moving slow application-side data processing into one SQL Server stored procedure, and fixed 2 bugs that returned the wrong carts
- Rebuilt 90+ of 106 legacy reports (shipping labels, pick tickets, receipts) for 150 stores and 2 distribution centers in C# and DevExpress, with a per-report on/off switch for safe rollout and 120+ automated tests
- Built a multi-agent AI coding workflow with GitHub Copilot that ran report migrations in parallel, with a human approving every plan and commit, converting 20+ reports in 2 weeks
- Upgraded the team's test deployment tool so testers install each environment's build from a one-click browser link instead of a file share, added a live status page, and restored a broken test environment on 4 servers
- Built validation that blocks invalid inventory adjustments across 11 actions on 4 C# screens, stopping the bad entries behind seven-figure inventory-loss misreporting, and added 24 new adjustment reason codes
- Won the TJX Innovator Award (top 4 of 49 new hires) for a project on customer acquisition costs

Software Engineer

September 2026 – Present

Athens Labs (AI learning platform, pre-seed)

New York, NY

- Let students choose question types and get rubric-based feedback on written answers in AI practice exams, on an LLM learning platform piloted at Harvard and BU (Python/FastAPI, Next.js, TypeScript)
- Rewrote the AI grading prompt (LLM on AWS Bedrock) to check every rubric criterion and return structured JSON, and kept worked solutions visible to students when AI grading fails
- Traced recurring save errors on student answers to autosave firing after submission, ruling out the first suspected cause with tests, then fixed it test-first (pytest, Vitest)

IT Engineering Intern (Software Engineering)

May 2024 – December 2024

TJX Companies

Framingham, MA

- Developed 50+ SQL validation procedures for a NetSuite migration, reconciling \$20M+ in financial data across row counts, aggregates, and report totals while catching a data-type bug that cut off decimal values

EDUCATION

Cornell University (Cornell Tech) – M.Eng. in Computer Science (Part-Time), expected May 2028

New York, NY

University of Massachusetts Amherst – B.S. in Computer Science, May 2025 | GPA: 3.8/4.0

Amherst, MA

PROJECTS

Headcount | Python (FastAPI), Redis, PostgreSQL, Docker, Nginx | GitHub

In Progress

- Built an attendance app that blocks fake check-ins with QR codes that refresh every 5 seconds, rejecting stale or forged scans with Redis and saving verified attendance in PostgreSQL
- Designed stateless FastAPI services that scale horizontally behind an Nginx load balancer in Docker, with Redis and database checks preventing duplicate check-ins

Memory Allocator | C, C++ | GitHub

- Built a custom malloc/free allocator over mmap, implementing first-fit allocation, splitting, free lists, and coalescing

Reliable Transfer Simulator | Python, Socket Programming | GitHub

- Built reliable file transfer over a simulated lossy network, recovering from dropped and corrupted packets with checksums, acknowledgments, timeouts, and retransmission

LEADERSHIP EXPERIENCE

Vice President, Events Coordinator

September 2022 – May 2025

UMass Asian American Student Association

Amherst, MA

- Led a 21-member executive board across 30+ events hosting 5000+ students over the academic year
- Directed Asian Night (2000+ attendees) on a \$30K+ budget and 50+ sponsors, coordinated logistics and performers

SKILLS

Languages: C#, SQL, Python, TypeScript, JavaScript, PowerShell, Java, C/C++

Frameworks: .NET Core, Entity Framework, Next.js, React, WPF, FastAPI, DevExpress, RDLC/SSRS, PyTorch, pandas

Data & Tools: SQL Server, PostgreSQL, Redis, MongoDB, AWS Bedrock, Docker, Nginx, Git, Linux, Visual Studio

AI Tooling: GitHub Copilot, Claude, Codex; multi-agent development workflows