Muyuan Zhang

New York City, NY
(341) 333-8883 • muyuanzhang14@gmail.com
linkedin.com/in/muyuanzhang14 • github.com/muyuanzhang14

Education

NYU Tandon School of Engineering — **New York, NY**
Master of Science in Computer Engineering — *Aug 2024 – Dec 2025*
GPA: 3.86

University of California, Berkeley — **Berkeley, CA**
Bachelor of Science in Computer Science — *Expected May 2021*
GPA: 3.7/4.0

Work Experience

Certified Kernel Tech LLC — **New York, NY**
Security Engineer — *July 2021 – May 2023*

- Audited over 10,000 lines of code & 30+ blockchain smart contracts (Solidity, Rust, Go).
- Identified and mitigated 400+ security vulnerabilities.
- Analyzed 50+ blockchain security incidents; performed 20+ Solidity smart contract attack tests.
- Developed shell scripts to automatically deploy smart contracts to test networks, streamlining the auditing process.
- Built a Python-based token flow tracker for Ethereum, expediting transaction analysis and vulnerability detection.
- Conducted security audits, unit tests, and integration tests for 5 large-scale DeFi projects.

Certified Kernel Tech LLC — **New York, NY**
Research & Development Intern (Backend) — *May 2020 – Dec 2020*

- Developed 5+ new features in Go for a blockchain Oracle Module.
- Built a robust, scalable blockchain distributed system (Cosmos SDK, Tendermint).
- Designed validation & certification modules for scalability.
- Created RESTful API integrations for seamless frontend-backend communication.
- Researched Ethereum smart contracts and various DeFi projects (e.g., Compound).

Better Printer Institution Inc. — **Berkeley, CA**
Co-founder & Manager — *Jun 2018 – Present*

- Led & trained a team of 5, customizing slicing software from open-source PrusaSlicer.
- Designed *"Foldy"*, a foldable 3D printer for competitive robotics teams.

Landhigh Tech – VSO China — **Suzhou, China**
Software Developer Intern — *June 2019 – Aug 2019*

- Automated real-time uploads, improving workflow efficiency & user engagement.
- Optimized workflow management using OpenCV, FFmpeg, Aspera, FTP.
- Developed a React-based UI module, enhancing user experience for 200+ customers.
- Resolved 20+ software bugs; launched 2 major patches & 10+ minor updates.

Technical Skills & Expertise

Languages: Python, Go, C, C++, Java, JavaScript, MySQL, Assembly, Solidity
Technologies: Docker, Kubernetes, TensorFlow, PyTorch, Cosmos SDK, Tendermint

Expertise: Machine Learning, OS Design, Blockchain Security

Academic/Personal Projects

Recommendation ML System (LLM + SASRec) *Jan 2025 – Mar 2025*

- Created a hybrid recommendation engine by combining **Llama3** for semantic text analysis with **SASRec** for sequence-based collaborative filtering, effectively addressing cold starts and position bias in 10,000 user-item interactions.
- Used *scikit-learn* and *NumPy* for data preprocessing (25 features per entry), applying normalization, standardization, and bias-correction (resampling, weighted loss).
- Deployed the system on **Chameleon** in a cloud-native environment with Docker, leveraging approximate nearest-neighbor retrieval for efficient real-time recommendations.
- Co-designed a cross-entropy ranking loss, achieving 90% validation accuracy across three integrated modules.

Operating System Design *Aug 2020 – Dec 2020*

- Built a Linux-like OS based on Stanford's PintOS.
- Implemented process control, parameter passing, and file system syscalls.
- Developed a multi-thread priority scheduler (clock algorithm).
- Devised a file system with buffer cache, ensuring synchronization via mutex locks.
- Created a simple HTTP server and automated testing with Unittest.

Database System Optimization *Aug 2020 – Dec 2020*

- Built a B+ Tree index for faster data retrieval.
- Optimized queries with block nested loop join and grace hash join.
- Implemented multi-granularity locking and two-phase locking for concurrency.
- Ensured data durability & consistency via WAL-based recovery protocols.