Yuxiao Tang

(+1) 217-766-3770 | a1phayxtang@gmail.com | linkedin.com/in/yuxiao | github.com/abdtyx

EDUCATION

Northwestern University — Evanston, IL
Master of Science in Computer Science — *Sept. 2024 – Dec. 2025 (Expected)*

Xi'an Jiaotong University — Xi'an, China
Bachelor of Engineering in Computer Science (Honors) — *Sept. 2020 – June 2024*

EXPERIENCE

Research Assistant — Sept. 2024 – Present
Northwestern Lab for Internet and Security Technology — *Evanston, IL*
- Deployed 10 self-hosted CI platforms (GitLab CI, Jenkins, etc.) on Docker/Kubernetes and analyzed vulnerabilities. Discovered and published GHSA-7q92-pph9-5686, CVE-2024-35046, CVE-2025-29576, and CVE-2025-45891.
- Developed a multithreading map-reduce program to collect and analyze data from GHArchive dataset. Gathered more than 4M repositories and performed an online analysis on GitHub. Discovered 3,828 vulnerable repositories on GitHub such as Grafana.
- Engineered a novel Private Information Retrieval scheme that offloads computations to CDN nodes. Designed and implemented a 1-RTT cryptographic protocol in C++ with sogou/workflow and adopted zero-copy in data transfer, protecting data confidentiality and integrity against malicious CDNs. Increased server throughput by 708x.
- Proposed a runtime lazy-fetch MPI scheduler and integrated it with Village, a vector-level parallelism NESL/VCODE compiler. Programs compiled with the optimized compiler are 32x faster.

Undergraduate Research Assistant — June 2023 – June 2024
XJTU Advanced NeTworked System Lab — *Xi'an, China*
- Built a standard Network Function pool from OpenNetVM to facilitate research concept validation.
- Designed a program state tracker to verify the correctness of Network Function optimizations and implemented in C++ with STL, verified the correctness of MiddleClick (optimized FastClick).

Minister of R&D — Oct. 2020 – June 2024
XJTU Association of Network Administrators — *Xi'an, China*
- Contributed to microservices (Go) and docs-server (React) projects, supporting the campus network maintenance service. Introduced the DevOps workflow to team development, automating the build, test, and deploy process. Led a 20-member Dev team and managed 7 key projects (microservices, auth-login, mirrors, apply, api-ss, training-system, and docs-server).
- Coordinated with the Information Center to setup the Microsoft 365 service, participated in moving forward the architecture transformation and seeking for external funding.

Software Development Intern — July 2023 – Aug. 2023
Magic Shield — *Hangzhou, China*
- Refactored baseline scan logic for the company's product, a Cloud-Native Application Protection Platform, improving scan scheduling by introducing cluster_uuid for better cluster-level management, ensuring robust code quality, clear in-code documentation, and adherence to coding best practices.
- Enhanced container visibility by implementing Containerd data collection via its Go SDK for WeaveScope, collaborating effectively with DevOps teams while promoting source control standards and thorough code reviews.

PROJECTS

Optimail | *Go, Gin, gRPC, Protobuf, GORM Docker, AWS EC2, AWS RDS* — Dec. 2024 – Jan. 2025
- Developed a Go web service that summarizes and highlights email content using ChatGPT API.
- Designed an email pipeline with a mail agent, microservice backend (Protobuf, gRPC, GORM, MySQL), and API orchestrator server (Gin) to process user requests and manage accounts.
- Created a front-end webpage to show email analysis results and deployed all components on AWS.

TECHNICAL SKILLS

Languages: Python, C/C++, Go, SQL (MySQL), JavaScript, HTML/CSS, Verilog, x86 Assembly
Frameworks: Workflow, Gin, GORM, gRPC, MPICH, DPDK, Bootstrap
Infrastructure: Linux, Bash, Git, Docker, Kubernetes, Virtual Machines, Microservices, AWS, CI/CD