Yuan Tian

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Education

University of Houston — Houston, TX
Doctor of Philosophy in Computer Science, GPA: 3.6/4.0 — *Sept. 2020 – May 2026 (Expected)*
Master of Science in Computer and Systems Engineering, GPA: 3.5/4.0 — *Jan. 2018 – Dec. 2019*

Texas A&M University — College Station, TX
Bachelor of Science in Electrical Engineering — *Aug. 2014 – Dec. 2016*

Experience

Graduate Research Assistant — Sept. 2018 – Present
University of Houston — *Houston, TX*

- Received the **Best Paper Award (Top ∼1% selection)** at IEEE NCA 2025 for the paper *A Framework for Detecting Secure Web Traffic Over VPNs: HTTPS and QUIC*.
- Conducted PhD research in **network security, anonymity systems, end-to-end encryption paradigms and systems, and encrypted traffic analysis**.
- Designed **real-time, server-side detection frameworks** for identifying anomalous and anonymized network behavior.
- Built large-scale experimental pipelines using **AWS EC2**, **Linux**, and distributed cloud testbeds.

Summer Research Program Coordinator — May 2023 – May 2025
National Science Foundation, University of Houston — *Houston, TX*

- Led and supervised a team of **5** undergraduate students conducting cybersecurity research projects.
- Managed the program website and collaborated with mentors to design and scope research projects.
- Developed a proof-of-concept **Agentic AI framework** for intrusion detection, integrating **LLMs** with **RAG** to translate raw network logs into human-readable insights.

Projects

Real-time VPN Traffic Detection | github.com/yuantian94/Research-Project-VPN-Detection — Present

- Developed a lightweight **intrusion detection system (IDS)** optimized for **real-time** VPN traffic analysis and anomaly detection.
- Built a robust experimental environment on **distributed cloud testbeds**, replicating production-like VPN paths and automating workflows with **Python**, **eBPF**, **PyShark**, and **Scapy**.
- Implemented deep learning models using **PyTorch**, achieving **99%** accuracy for **HTTPS** and **∼95%** for **QUIC**.
- Engineered an **AI-powered web application** to showcase results and provide real-time insights.

Full-stack E-commerce Web Application | github.com/yuantian94/MERN-Project — Dec. 2022

- Created a full-stack e-commerce web app enabling users to buy and sell items using **JavaScript**.
- Utilized **React** to componentize the UI, reducing frontend development time by **30%**.
- Improved performance by integrating **AWS S3** for static assets (images/icons), optimizing response time through efficient retrieval.
- Built a **Node.js** backend with **RESTful APIs** supporting user management, product operations, shopping cart, orders, payments, and search/filtering.
- Deployed frontend, backend, and **MongoDB** using **Express.js** and **Docker**.

Instant Messaging Application | github.com/yuantian94/Instant-Messaging-Application — May 2021

- Built an instant messaging application using multi-threaded **socket programming** in **Python**, supporting authentication, presence, private/group chat, emojis, and file sharing.
- Built a user-friendly GUI using **Tkinter**.
- Used **SQLite3** for efficient storage and management of user data and chat history.

Technical Skills

Languages: C/C++, Python, Java, Bash, SQL, HTML/CSS, JavaScript, R, Go, Verilog
Libraries/Frameworks: Bootstrap, jQuery, Flask, ReactJS, Node.js, Express.js, MySQL, MongoDB, Spring Boot, Hibernate, PyTorch, Kafka, Redis, gRPC
Developer Tools: VS Code, PyCharm, Visual Studio, DataGrip, GoLand, IntelliJ, AWS, Linux, Git, Docker, Kubernetes