

Jeriah Yu

jeriah@cs.utexas.edu | ret2jyu.dev | linkedin.com/in/jeriah-yu

EDUCATION

University of Texas at Austin Aug 2021 - Dec 2023
BS Computer Science (Turing Scholars Honors), BS Mathematics (Department Honors) GPA: 3.94 (Honors)
Cryptography (Grad), Adv. Topics in Crypto (Grad), Adv. OS (Grad), OS (Hon), Concurrency (Hon), Algorithms & Complexity (Hon), Comp. Sec. (Hon), Comp. Arch. (Hon), Prog. Lang. (Hon), Auto. Driving (Hon), Algebraic Structures, Real Analysis, Topology, Numerical Analysis, Stochastic Processes

EXPERIENCE

UT Computer Science Undergraduate Course Assistant Jan 2024 - Present
Discussions, office hours, exam writing, and grading for Algorithms & Complexity.

Jump Trading Software Engineer Intern (Crypto Security) Jun 2023 - Aug 2023
Added blockchain RPC support to secure gateway system used for account balancing. Designed, built, and deployed greenfield encryption library and high-performance end-to-end encrypted file transfer system. Designed, built, and deployed high-throughput SSH session activity analyzer on production systems.

Raytheon Technologies Senior Vulnerability Research Intern (CODEX) May 2022 - Aug 2022
Reverse engineered binaries and developed exploits against consumer and commercial embedded networking systems.

Applied Research Laboratories Sci. & Eng. Apprentice, Student Technician (SISL) Jun 2021 - Dec 2022
Developed applied reinforcement learning agents as proof of concept. Researched adversarial attacks against sonar classifiers and defense methods. Improved performance in sonar simulation engine. Wrote report and poster.

ACTIVITIES

UTCS Cryptography Group Undergraduate Researcher Jan 2023 - Present
Developed private filtering functionality on OMR using lattice-based FHE and wrote honors thesis. Contributed to fast private retrieval project using distributed point functions. Mentored in the Directed Reading Program.

Information and Systems Security Society Engineering and Corporate Officer Dec 2021 - Present
Wrote challenges and [writeups](#) for biweekly capture-the-flag (CTF) hacking competitions. Hosted annual **UTCTF**. Developed and maintained relationships with corporate sponsors. Organized networking events and sponsored talks.

ATX Science Olympiad Tech Director Aug 2021 - April 2024
Developed cloud scoring system to boost grading parallelization, provide additional functionality, and prevent data loss. Led and delegated back office automation and core system projects to members.

Longhorn Rocketry Association Electronics Team Lead Jan 2022 - May 2023
Constructed flight computer for 2-stage vehicle and worked on custom flight computer PCBs with active control.

PROJECTS

Attribute-Based Oblivious Message Retrieval Honors research thesis extending OMR functionality with FHE.

Autonomous Drifting Developed control mechanisms for high speed robot car in low traction environments.

Parallel NTT Investigated negacyclic convolution and GPU parallelization for number theoretic transforms.

ChatOS Developed audio driver for QEMU-emulated multicore kernel supporting networked communication.

Energy Demand Research on power grid demand with time-series forecast models to adjust for climate seasonality.

NN attacks and defenses ARL research on adversarial attacks and countering techniques for classifier networks.

Concurrency Parallel C++ Bletch algorithm, k-means with Nvidia Thrust, 2PC, data race detection, FPGA sim.

Computer Arch Interpreter, compiler, ARM emulator, Verilog CPU, formal verification harness of SystemVerilog.

BevoFuzz Java fuzz testing system for Data Structures and Honors Computer Architecture projects.

DISTINCTIONS

DiceGang CTF player: DEFCON CTF Qualifier, Hack-A-Sat Finalist, [National Cyber Scholar with Honors](#), 2023 [College Scholar](#), CyberPatriot [National Finalist](#), AIME Qualifier

SKILLS

ARM, C, C++, CUDA, Clickhouse, Coq, Cryptography, Docker, Ghidra, Git, Go, Java, Kubernetes, Linux, MIPS, Podman, Python, QEMU, RISC-V, Rust, SQL, Verilog, Vulnerability Research, x86, Z3