

MAXIMILIAN GOLDSTEIN

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EDUCATION

The University of Illinois at Urbana-Champaign
Bachelor of Science in Computer Engineering

August 2017 - May 2021

RELEVANT ACADEMIC EXPERIENCE

Computer Systems Engineering	Designed and implemented a monolithic kernel based on Linux for a basic OS, all written from scratch.
Computer Security	Developed skills to assess system security and information assurance in various digital domains, such as in hardware virtualization, web applications and network infrastructures.
Communication Networks	Demonstrated understandings for the different OSI model layers by implementing various networking protocols from scratch in C.
Computer Organization and Design	Worked with peers to design and implement a 5-staged pipelined RISC-V processor with advanced hardware features, such as cache hierarchies and speculative execution.
Applied Parallel Computing	Gained experience developing algorithms and applications optimized for parallel processors.
Distributed Systems	Learned about building and maintaining systems to ensure consensus & fault-tolerance properties.

TECHNICAL SKILLS

Languages	C/C++, Python, Go, Java, JavaScript, Bash, SQL, SystemVerilog, L ^A T _E X.
Libraries and Frameworks	CUDA, OpenCL, TensorFlow, PyTorch, Scapy, PyCryptodome, Apache Hadoop, IBM NodeRed.
Software	GNU/Linux, GNU toolchain, QEMU/KVM, radare2, Ghidra, Wireshark, AFL++, Quartus, ModelSim.
Databases	MySQL, PostgreSQL, InfluxDB, Apache Cassandra, Google Spanner.

PROFESSIONAL EXPERIENCE

CryptixMining, LLC

May 2020 - August 2020

Software Engineer and System Administrator

Chicago, IL

- Designed hardware-accelerated applications for massive data collection and processing using FPGAs and NVIDIA GPUs.
- Developed a web-scraper in Python for real-time data capture and storage for use by a machine-learning model to predict market behaviors.
- Authored and deployed software to perform financial arbitrage among 30,000 crypto-currency exchanges by applying graph algorithms and regression techniques to speculate and execute on profitable trading routes.
- Acted as administrator for a cluster of machines in a company data-center. Monitored cyber-security risks and implemented techniques to improve quality of services.
- Configured and maintained load-balancing software, such as HAProxy, to distribute web requests across many nodes to address problems due to rate-limiting and elude detection from network abuse mechanisms.

Friedman Corporation

June 2017 - June 2019

Software Development Intern

Deerfield, IL

- Contributed front and back-end feature enhancements to a proprietary software suite for clients across multiple industries to address client's specific needs and level of urgency.
- Assessed quality of services and company infrastructure by regularly checking server health and deploying updates on a rolling basis to mitigate service outages for users.
- Successfully led efforts to port Java-based modules from proprietary IBM WebSphere frameworks to open-source RedHat frameworks.
- Assisted other developers in producing secure and well-structured code which sanitizes user-supplied inputs, improves code maintainability, and delivers on project goals.
- Reviewed and merged commits to the production branch of the codebase and pushed updates onto client deployments to integrate changes and mitigate potential bugs and vulnerabilities on a weekly basis.

iMedia, Inc

April 2016 - April 2017

Intern

Highland Park, IL

- Authored Python scripts to audit a client's web server and generate reports to display potential security vulnerabilities, such as dependencies on outdated system software, open or unused ports, suspicious network traffic, and accessible regions of the remote file-system.
- Developed Python and bash scripts to automate processes such as server initialization, backups to external storage, and server migrations.

INTERESTS

Kernel Hacking; Internet of Things (IoT) Security Research; Hackathons; Capture The Flag (CTF) Challenges; Fishing; Gardening; Tennis;