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William Luke
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EDUCATION

Texas A&M University, College Station, TX — December 2021
Bachelor of Science in Computer Engineering — GPA: 3.825 / 4.00
Minor in Mathematics

Relevant Coursework

Operating Systems: basic operating systems concepts; methods of operating systems design and construction including algorithms for CPU scheduling, memory and general resource allocation, process coordination and management.

Computer Systems: computer programming focussing on operating system APIs, file systems, network sockets, concurrency, and inter-process communication.

Microcomputer Systems: Microcomputers as components of systems; VLSI processor and coprocessor architectures, addressing and instruction sets; I/O interfaces and supervisory control; VLSI architectures for signal processing; integrating special purpose processors into a system.

Other coursework: OS & Network Security; Communications & Cryptography; Parallel Programming; Computer Architecture; Data Structures & Algorithms; Calculus I, II, III; Differential Equations; Linear Algebra; Discrete Mathematics.

EXPERIENCE

Real Time Distributed Systems Laboratory, Dept. of Computer Science & Engineering — **Texas A&M University**
Undergraduate Researcher — June 2020 – present

- Contributed to the development of a scalable, immutable, privacy-preserved logging system for supply chain tracking.
- Implemented a system to record supply chain transaction information on a Hyperledger Indy blockchain network.
- Design and implementation of distributed verifiable credential issuance and verification system based on W3C standards.
- Management of lab computing infrastructure using Ansible for consistent OS environment and to deploy system software.

College of Engineering IT — **Texas A&M University**
Student Linux System Administrator — May 2019 – June 2020

- Configuration management of Linux-based servers and workstations in research groups and student laboratories with Chef.
- Supporting researchers with HPC clusters using Slurm for scheduling and Singularity for container support.
- Contributions to development of unified installer for multiple Linux distributions.
- Managing user account authentication and permissions using Active Directory in Linux environment.
- Developing documentation for end-users about IT policies and software usage.

PROJECTS

Git-Deployer

- Simple CI/CD daemon for deploying and building code from Git repositories.
- Listens for webhook-style HTTP POST requests from Git hosting platforms (e.g., GitHub).
- Executes build scripts with a defined format after pulling code if present in repository.

Unofficial Debian Package Repository

- Hosting and managing an unofficial Debian package repository for laboratory computing infrastructure.
- Packaging unofficial builds of NetAuth authentication and identity provider suite of tools.
- Automation of package building and signing, and repository updates using Git-Deployer.

"SignalAnalyzer" Application

- Android application to use device's built-in radios to scan surroundings for WiFi access points and Bluetooth devices.
- Presents scrollable list of scan results to the user and rebuilds the results list without rescanning after a page change.
- Plots known WiFi access points on a map using location data from the WiGLE API.

SKILLS

Programming: C/C++, Go, Python, JavaScript, Bash, HTML/CSS, Java, Rust (some experience)
Other: Git, Ansible, Linux, Docker, LXD, pf, Hurricane Electric IPv6 certification, Debian packaging, RPM packaging, CI/CD, FreeBSD, OpenBSD, Hugo, Flask