Personal: william.luke@silverknoll.net
Academic: william.luke21@tamu.edu
Mobile: +1 (281) 739-0684

William Luke
https://silverknoll.net

EDUCATION

Texas A&M University, College Station, TX   December 2021
Bachelor of Science in Computer Engineering   GPA: 3.843 / 4.00
Engineering Honours Student

Relevant Coursework

- Computer Systems: computer programming focussing on operating system APIs, file systems, network sockets, concurrency, and inter-process communication.
- Computer Architecture: register transfer languages to describe computer operation, CPU organisation, microprogramming, I/O, and memory system architecture.
- Other coursework: Microcomputer Systems; 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

- Researching the architecture and application of distributed ledger (blockchain), decentralised identification, and verifiable credential networks.
- Maintaining operating system and software configuration of laboratory computer equipment.

College of Engineering IT   **Texas A&M University**
Linux Student Technician   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

Linux Platform Development

- Bootstrap Arch Linux ARM and Void Linux on the previously unsupported Pinebook Pro.
- Writing package build files to create binary packages of patched kernel, u-boot, and firmware to integrate with distributions' build systems.
- Cross-compiling packages for ARM (aarch64) on x86 host to improve compile times.
- Manage private repository to distribute packages and use native package management system for distribution.

"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.

Remote Server Administration

- Private SMTP mail server, with NixOS's declarative configuration and proper DKIM, DMARC, and SPF records in DNS.
- Nextcloud file server for accessing files remotely through the WebDAV protocol.
- Maintaining OpenBSD system for static web pages with OpenBSD's *httpd* and SSH access to VPS resources.
- Wireguard VPN for access to home network and IPv6 routing on IPv4-only networks.

SKILLS

Languages: English (native), Russian (conversational)
Programming: C/C++ (proficient); Go (experienced); Rust, Java, Bash, Python (some experience)
Linux Binary Packaging: Arch Linux (PKGBUILD), Void Linux (xbps-src templates), RPM-based (.spec files), DPKG-based