

Work Experience

Software Engineer (E5) Meta, New York, New York January 2022 – January 2025

- Developed and maintained Meta's TLS infrastructure, focusing on security and performance improvements.
- Implemented new protocols such as **OHAI (Oblivious HTTPS)** and **ECH (Encrypted Client Hello)** to enhance privacy and security. Mainly converting RFCs to performant code.
- Managed and maintained Meta's open-source **TLS Library**, *Fizz*, ensuring new features and performance optimizations were integrated efficiently.
- Maintained and contributed to Meta's **transparent TLS service**, which proxies HTTP connections to HTTPS.
- Led efforts to **port OpenSSL 1.1.1 to OpenSSL 3**, modernizing Meta's cryptographic infrastructure.

Software Engineer Intern Google, Raleigh, NC May 2021 – August 2021

- Contributed to the pktgen **Linux kernel** module. Implemented the ability to provide a probabilistic distribution of packet sizes (Internet Mix or IMIX). Improving the accuracy of vendor NIC tests.
- Developed a trial test harness for pktgen to collect network performance data over a configuration space.

Backend Web Developer North Carolina State University, Raleigh, NC March 2021 – May 2021

- Developed Docker-based CI environments for testing and deployment of a web application.
- Maintained the Node/Express/MongoDB backend.
- Improved the data collection for critical campus-wide security information.

CI/CD Software Engineer Intern BMW, Spartanburg, SC August 2019 – December 2019

- Supported the test automation and development for the deployment of both iOS and web-based products used by thousands of users.
- Maintained the continuous integration pipeline for multiple client-facing applications.
- On-boarded new employees on effective continuous integration practices.

Education

North Carolina State University, Raleigh, NC

B.S in Computer Science, August 2017 - December 2021

Open-Source Contributions

Pktgen: Implemented the ability to provide a probabilistic distribution of packet sizes ([Internet Mix/IMIX](#)). Provided various bug fixes. Merged into the Linux Kernel.

- IMIX: <https://lkml.org/lkml/2021/8/9/757>

Projects

Gameboy Emulator: A Gameboy emulator written in C. Uses make for build automation, Travis CI for continuous integration, Cmocka for unit testing, and Coveralls for code coverage tracking.

- Link: <https://github.com/NickR23/CeeBee>

Skills

Languages: C++, C, Go, Python, Java