

Vince Lehman

vlehman1@gmail.com • vlehman.com

EXPERIENCE

Network Systems Researcher

November 2014 - Present

Networking Research Lab, University of Memphis

- Lead development on Named Data Link-State Routing protocol (NLSR) (C++) by writing design documents, managing development team, performing code reviews, and designing and implementing major changes to the system architecture
- Manage development of Mini-NDN, a Python based Named Data Networking topology emulator for Debian-based Linux systems, by implementing core features, assigning tasks to developers, and providing production support to users through documentation and a mailing list
- Refactored major module of Named Data Networking Forwarder (NFD) (C++) to allow for future algorithm optimizations based on design documents; used test-driven development to confirm correctness and contributed documentation to NFD development guide
- Investigated feasibility of direct Named Data multiple interface communication between Android mobile devices by developing Java chat application over ad hoc Bluetooth and Wi-Fi direct

Undergraduate Research Assistant

January 2013 - November 2014

Networking Research Lab, University of Memphis

- Designed, documented, and implemented algorithms using the C++ standard library to optimize routing information processing in NFD
- Performed system administration duties for two dozen servers which included Linux configuration, SSH server setup, TCP configuration, and diagnosing system issues
- Designed and developed a software-defined networking Python implementation of caching algorithms which use a radix trie data structure to efficiently scale ISPs' FIBs
- Developed dynamic jQuery web application for real-time analysis and visualization of forwarding table aggregation used by multiple universities in proposal presentations
- Reduced preliminary SDN architecture experiments' time from days to hours by writing networking simulator in C which allowed faster prediction and confirmation of test results
- Created suite of Bash and Python scripts to automate experiment data processing, formatting, and graphing to allow for quick analysis of experiment results

TECHNICAL SKILLS

Programming Languages	C++, Java, Bash, Python
Development Tools	Git, SSH, Jenkins, Gerrit, Redmine
Operating Systems	Linux, OS X

EDUCATION

University of Memphis

December 2014

Bachelor of Science, Computer Science, *magna cum laude*

Major GPA: 4.0

Overall GPA: 3.56