Matthew J. Miller

NetApp   **Research Triangle Park, NC**

Email: mattmiller1@gmail.com   **Web:** www.matthewjmiller.net

LinkedIn: www.linkedin.com/in/matthewjmiller1   **GitHub:** github.com/matthewjmiller1

Work Experience

Summary: Experienced in Linux and FreeBSD-based development. Interested in most any opportunity to solve problems, learn new technology, and apply my research, design, and implementation expertise.

Principal Engineer, NetApp, July 2020–present

Senior Software Engineer, NetApp, December 2011–July 2020
Developer for Data ONTAP Scale-Out Networking team.

Senior Software Engineer, Cisco Systems, January 2007–December 2011
Developer for IOS-XE on the ASR-1000 router and IOS on the 7600 router.

Education

Ph.D., Computer Science, December 2006
University of Illinois at Urbana-Champaign, GPA: 3.94/4.0

- *National Science Foundation Fellowship* (16.2% acceptance rate)
- *ASEE National Defense Science and Engineering Graduate Fellowship* (21.3% acceptance rate)

M.S., Computer Science, December 2003
University of Illinois at Urbana-Champaign, GPA: 3.94/4.0

B.S., Computer Engineering, May 2001
Clemson University, GPA: 4.0/4.0

Technical Experience

- Developer for NetApp's Data ONTAP operating system. Helped convert network data plane from a proprietary kernel to FreeBSD. Worked with TCP, packet APIs, and network thread design. Created the unit test infrastructure for kernel code. Implemented an RDMA protocol for node-to-node data transfer. Adapted ONTAP networking to run in user-space, containerized environments and implmented gRPC-based etcd client. Wrote several Python utilities used within the company.

- Developer for Cisco's IOS and IOS-XE operating systems. Lead designer and developer for control plane code for several features including NAT (Network Address Translation), NAT64, and Performance Routing (PfR). Accomplishments included several substantial performance and scalability improvements.

- Graduate research focus was wireless networking, specifically energy efficient protocols and security. Work included extensive network simulation (*ns-2*, which uses C++ and OTcl), a sensor hardware implementation (TinyOS/NesC), a user-level ad hoc routing implementation, and LaTeX for reports and documentation.

Publications

- A primary author of 9 peer-reviewed conference and journal papers, including outlets such as *IEEE Transactions on Mobile Computing*, *ACM Transactions on Sensor Networks*, *IEEE Infocom* (18% acceptance rate), and *IEEE International Conference on Distributed Computing Systems (ICDCS)* (13.8% acceptance rate). All publications and presentations are available at www.matthewjmiller.net/publications/.

October 2, 2022