Himanshu Mehra

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Education

Master of Science - Computer Science **May '15**
Viterbi School of Engineering, University of Southern California **GPA: 3.98/4.0**

Bachelor of Technology - Electrical & Electronics Engineering **May '13**
National Institute of Technology, Tiruchirappalli **GPA: 9.02/10**

Work Experience

Cisco Systems Inc. **July 2015 – Present**
iNXOS ACI Software Development
Developing iNXOS software for Application Centric Infrastructure at the Insieme business unit in Cisco dealing with data plane and control plane networking protocols.

Ericsson Inc. **Jan 2015 – May 2015**
Spider Line Card Software Engineering Intern
Working with the spider team to develop data plane software for the Spider-ASIC based family of line-cards of the Smart Service Router.

Versa Networks Inc. **July 2014 – August 2014**
SNMP based system monitoring and configuration
Created the entire MIB hierarchy for Versa Networks using the Yang data model and developed CLI commands to monitor various system statistics via SNMP. NETCONF notifications and SNMP traps were reported to network control station.

Torque based feedback model for Humanoid Robot **May 2012 - July 2012**
Autonomous Agents Laboratory - University of Manitoba, Canada
Stroke drawing capability for humanoid robot was implemented based on an arm-torque based feedback model. The CM2+ controller was programmed in C and its user interface was designed using Nokia Qt.

Technical Skills

Operating Systems:	Linux/Unix (POSIX), Windows
Programming Languages:	C, C++, Java, Python, Lisp
Web Development:	SQL, PHP, JavaScript, XML, HTML, CSS
Tools:	Git, Wireshark, OPNET, MATLAB

Projects

Software based Precision Time Protocol - University of Southern California **Fall 2014**
A custom version of Software based PTP protocol was implemented. The protocol time synchronizes the client to a server based on custom packet exchange. The accuracy achieved was in order of tens of microseconds.

Custom IP Router – University of Southern California **Fall 2014**
A custom IP router in user space using libpcap and raw sockets was created. The router executed RIP, packet sniffing and packet forwarding via different threads.

FTP over UDP – University of Southern California **Fall 2014**
A file transfer protocol was implemented using UDP for lossy links. The protocol uses a mixture of UDP and TCP sockets for the file transfer process. Throughput of 55 Mbps was achieved on a 100 Mbps link with 40% bidirectional loss.

DDoS Attack Trace back – University of Southern California **Spring 2014**
The source of the DDoS attack and the path taken by the packets was determined by performing data traffic analysis at the victim. The application used the PCAP library in C for the analysis and was deployed on the every router and the victim.

Media Based Searching and Querying – University of Southern California **Spring 2014**
Developed a media search system in JAVA for image retrieval based on color histograms and morphology within the image. Query images included logos with search images from taken from the web to detect the presence of the logos.

Android & Web Weather Application – University of Southern California **Fall 2013**
An Android and Web application integrated with Facebook was developed to retrieve Weather information of worldwide cities. A Java Servlet was used to fetch data using Yahoo Rest Services.