Rahul Ethiraj

USC Viterbi School of Engineering

Milpitas, CA ● +1 (332)-201-2580 ● ethiraj@usc.edu ● Website: https://raethira.github.io/

EDUCATION

University of Southern California - *Los Angeles, CA*
Masters in Computer Science | Expected Dec 2019
GPA: 3.54/4.0

Amrita Vishwa Vidyapeetham University - *Coimbatore, India*
Bachelors in Computer Science & Engineering | May 2015
GPA: 3.56/10.0 (*Distinction*)

SKILLS

- **Networking** : CCNP, CCNA (R&S); Data Analysis, Data Center, TCP/IP, QoS, Load Balancing, Cisco IP routing & switching protocols, Cisco System Products; VMware ESXi, vCenter, vSphere; FC, SAN, FCoE, iSCSI
- **Hardware** : Cisco UCS (B and C series); Nexus 7k, 5k, 3k, 2k series, 1000v; MDS 9000 series; Brocade SAN switches
- **Technical** : Java, C, C++, Python, PHP, SQL, MySQL, Unix, JavaScript, XML, JSON, AJAX, jQuery, CSS3, HTML5, Bootstrap, AngularJS, React Native, UCS Central, Hyper-V, Red Hat, SUSE
- **Tools** : Android Studio, NetBeans, GIT, SVN, AWS-Elastic Beanstalk EC2/S3, Google Cloud, Lambda, Photoshop, Visio, SciPy, Weka, Pandas, NumPy, MATLAB, Scikit-Learn, TensorFlow, GNS3, Wireshark, ASP.NET
- **Soft skills** : Global delivery, customer interaction, mentoring, network consulting, team building

WORK EXPERIENCE

Cisco Systems, San Jose – *Software Engineer, Intern* May 2019-Present
- Developed automated testing for features of the Adaptive Security Appliance Next Generation Firewall platform.
- Installed and executed testing of Umbrella connector against NGFW platform to maintain and enhance overall quality using pyATS test framework. Investigated test failures and assisted with bug investigation and reproduction.

Research Assistant at USC – *Sol Price School of Public Policy.* Dec 2018-May 2019
- Assisted with cleaning a full-text dataset of all House and Senate committee hearings from the early 2000s to present.
- Performed web scraping, text analysis and machine learning on a hand-coded random sample of the dataset.

COCOMO Software Engineering at USC – *Intern* May-July 2018
- Supported project members in research involving a software effort cost estimation model originally developed by Dr. Barry Boehm – in a highly transparent Agile environment.
- Managed a team of three and re-implemented COCOMO in Java so it is accessible/executable on any OS platform.

Cisco Systems, Bangalore – *Engineer, Server Virtualization* July 2015-Dec 2017
- Delivered solutions and resolved problems for Cisco clients through computer programming and systems engineering.
- Performed troubleshooting on large scale data center networks (Linux, storage, NTP, OS/BIOS/firmware,VM migrations) and scripting to automate diagnosis of problems in network.
- Provided consultation support, filed bugs and tested new software release thus improving serviceability of the product by working with engineering teams on fixing bugs.
- Collaborated with different vendors like Dell, VMware, Microsoft, Citrix, Redhat, VCE, EMC and Netapp to fix complex multi-vendor environmental network, server and storage issues.
- Decoded complex logs and core dumps to analyze and verify root cause of issues.

Cisco Systems, Bangalore – *Intern* Jan-June 2015
- Completed practical training and assisted in ongoing projects (automation and RMA reduction) through scripting.
- Designed *CYK, LR parsers,* and *shift-reduce* in Python, to parse tech-support bundles from Unified Computing System (UCS) and extract required information for Big Data Broker (BDB).

PROJECTS

Token Bucket Emulation using POSIX multi-threading – *C, Unix* Jan-May 2019
- Emulated a traffic shaper which transmits packets controlled by a token bucket filter. Used mutex and signal handling to improve throughput and delay metrics computed from packet statistics captured at each run.

Weenix Kernel Programming – *C, GDB debugger, Unix* Jan-May 2019
- Implemented kernel threads, processes, mutexes, scheduler primitives, kshell, interrupt handling, virtual file system, virtual memory management, and shadow objects for a general-purpose toy operating system called Weenix.

Distributed Lookup Service (Socket programming) – *C++* | GitHub May-July 2019
- Designed a dictionary lookup service to locate word meanings distributed across multiple nodes. Implemented a TCP connection from client to front-end server and UDP connections from front-end server to three backend servers.

Gender Transformation using Adversarial Networks - GANs – *Python, PyTorch* | GitHub May-July 2018
- Implemented a generator network that realistically transforms the gender of a person out of curiosity for what famous *Marvel men stars* would look like if born with two X chromosomes.

Travel and Entertainment Search App – *Node.js, Java, JS, jQuery, Bootstrap, Angular, AWS* | Website Jan-May 2018
- Developed a Web and an Android application, which allows users to search for a place using a live JSON API, view its information, save it as a favourite and/or post about it on Twitter. The web application is hosted on Amazon Cloud.