Puneet Mehrotra

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Education

M.Sc. in Computer Science, University of British Columbia   *September 2017 - Current*

Supervisor: Prof. Ivan Beschastnikh; Expected graduation: September 2019

B.E.(Hons.) in Computer Science, Birla Institute of Technology and Science, Pilani - India   *August 2008 - May 2013*

GPA: 8.07/10

Research Experience

Graduated Access Control on Remote Devices ⬡   *University of British Columbia*

NETWORK, SYSTEMS, AND SECURITY LAB   *January 2018 - Current*

- Uses **Linaro OP-TEE** to manage fine-grained and trackable access to data on remote devices by linking the data to its access policy and encrypting them together
- Leverage **FUSE** to intercept operations on encrypted files to facilitate their on-demand decryption and re-encryption using the trusted application running in the Secure World.
- Prototype written in **C** using a **LeMaker Hikey** board with **ARM TrustZone** and Linux 4.15.

Work Experience

Graduate Teaching Assistant - Software Engineering Course, UBC   *September 2017 - April 2018*

- Managed two teams implementing a self-service tool for Uniserve clients and IT support staff.The tool allows the IT staff to manage their devices and see real time information about their network health and usage trends.
- Supervised student teams implementing a self-checkout and payment portal for ChainXY.

Member of Technical Staff - II, NetApp Inc. - Bangalore, India   *July 2015 - July 2017*

- Designed and implemented RussianRiver – a tool to validate and set host multipath settings for **NetApp SAN**
- Worked on Unified Host Utilities Kits for Linux and Unix – a tool for checking the health of storage on the OS when connected to NetApp storage controllers. It provides path and state information for all NetApp LUNs present on a host by issuing queries to the Host Bus Adapter API libraries.
- Handled infrastructure orchestration and configuration management for interop QA infrastructure.
- Designed and developed SAN Host Remediation Tool that automates the tasks to be performed on hosts when the storage migrates from NetApp 7Mode Data ONTAP to Cluster Data ONTAP. Supports all major host OS variants

Member of Technical Staff – I, NetApp Inc. – Bangalore, India   *July 2013 - July 2015*

Engineering Intern at NetApp Inc. – Bangalore, India   *Jan. 2012 - Feb. 2013*

- Designed and developed iLAB – a framework that handles dynamic testbed creation, resource allocation and initialization, test execution, and testbed tear-down. Increased execution efficiency by 95%
- Created a web application for iLAB using **Django** to help users select test configuration and track progress
- Wrote **Python** and **Perl** scripts and libraries to test the interoperability of new Linux host and Data ONTAP features
- Wrote **SystemTap** scripts to capture additional details during regression testing – I/O latency, CPU utilization, Device Mapper - Multipath Queue Depths, etc

Academic Projects

Revelio: Detection and Mitigation of Security Vulnerabilities ⬡   *Spring 2018*

CPSC 507: ADVANCED SOFTWARE ENGINEERING   *University of British Columbia*

- Revelio statically analyses **Python** code for known vulnerabilities. It has the following features:
  - Detection and updation of vulnerable functions and oudated dependencies with safe alternatives
  - Automatically running tests to verify update didn't break code.
  - Downloading and analyzing of GitHub repositories as well as local files, and automatically creating pull-requests to GitHub repositories to fix vulnerable functions