

PRIYAL SHAH

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Education

Master of Science in Computer Science	Oregon State University	March 2019	3.60 Current GPA
Bachelor of Engineering in Computer Engineering	Gujarat Technological University	May 2016	6.85 CGPA

Concentration: Cybersecurity, Security Protocols, Computer System Networks, Intrusion Detection/Prevention Systems

Graduate Courses: System Security; Network Security; Cyber Attack and Defense; Cyber Security; Applied Cryptography; Advanced Computer Networking; Parallel Programming with OpenMP, OpenCL and OpenGL; Computer Architecture; Error Correcting Codes; Operating System; Data Analysis and Algorithms; Theory of Computation; Compiler Design.

Work Experience

- Oregon State University** Research towards MS Thesis Sep 2017 – present
- Pursuing research on **IDS/IPS** like **Bro** and **Snort** with Elastic Search and Kibana to make them work together efficiently.
- Oregon State University – EECS** Graduate Teaching Assistant Sep 2017 – present
- So far worked with over **300 students** as GTA of “Introduction to Computer Networks” (**Wireshark** Labs and **OSI** Model) and Software Engineering-1 (Basic **SDLC**, **UML** Diagrams, Group projects applying **Agile** software development)
- Oregon State University – Information Services** Student Technician Mar 2017 – Sep 2017
- Worked as student **Network administrator**, InfoSec Lab Assistant (**phishing attack** detection, good troubleshooting skills).

Projects

- Denial of Service Mitigation with Client-Server Puzzles May 2018 – present
- Experiment: Can **malware** be detected without having to **decrypt** the traffic? April 2018 – present
- Working with multiple VMs, tcpdump and .pcap files; IPsec, TLS Tunnelling for encryption; VPN; Bro and Snort as IDS.
- Experiment: Prevent **control flow hijacking** April 2018 – present
- Prevent “system(/bin/sh)” calls on network using Bro IDS.
- Experiment: Detection of **cryptocurrency mining** on network using Bro as Network Intrusion Detector. Jan 2018 – March 2018
- Working with **Mininet** Simulations, tcpdump and .pcap files; Bro as IDS.
- CTF** Competition Jan 2018 – Mar 2018
- Exploited **Buffer Overflow**, Arbitrary R/W, **Format String** vulnerabilities with **Shell** scripting; SQL Injection; **Return Oriented Programming** employing **pwn00ts**, Burp Suite etc. practicing reverse engineering of x86, x86-64 **assembly** with gdb.
- Network Analysis in TLS Protocol Versions** Jan 2017 – Mar 2017
- Python** implementation to measure throughput and communication delay in a simple topology.
- PGP** Mar 2017 – May 2017
- C implementation to understand various aspect of Pretty Good Privacy.
- Android Application** Nov 2015 – Feb 2016
- Java** implementation for an event information app at the National Technical Symposium.
- Data monitoring** Website Aug 2015 – May 2016
- Built a **PHP** website to monitor live readings of various sensors using **Laravel**, **JavaScript**, **Bootstrap** and **High Charts**.
- Built **Order Management System** for Drug Wholesalers using **C++**. Feb 2015 – Jul 2015
- Tweaked certain aspects of the **iOS** by testing **Jailbreaking** techniques. Jan 2014 – Dec 2016

Seminars

- Detecting **Credential Spearphishing** Attacks in Enterprise Settings: Using Bro as IDS Mar 2018
- Bitcoin-NG** Analysis: Next Generation Bitcoin Protocol to address the issue of scalability. Feb 2018
- KRACK** Analysis: Key Reinstallation Attacks Analysis to understand how WPA2 works. Jan 2018
- Error Correcting Codes** and **Cryptography**: Showed the connection between these two fields. Nov 2017
- Portable Mobile: PHONEBRICKS**: The managing skills to run a tech company cost-effectively. Apr 2015
- Cloud Computing: **iCloud** – The basic working of the cloud service and security aspect of the same. Jan 2015

Other Experiences and Personal Skills

- Served as Event Coordinator and the Central committee member at National Level Technical Festival.
- Won 1st prize in relay coding competition at National Technical Symposium.
- Undertook volunteering work at Private Educational Institute.
- Worked as a cashier at University Housing and Dining Services at Oregon State University.
- Polyglot**: English, Hindi, and Gujarati; Excellent grasping power; effective team-working and leadership skills.