

# PRIYAL SHAH

3405 NW Orchard Avenue Unit 282, Corvallis, OR. 97330 | <http://people.oregonstate.edu/~shahpri/>  
Email: [shahpri@oregonstate.edu](mailto:shahpri@oregonstate.edu) | Cell: +1 (541) 602-8064 | [LinkedIn: https://www.linkedin.com/in/spriyal/](https://www.linkedin.com/in/spriyal/)

## Education

Master of Science in Computer Science	Oregon State University	June 2019	3.58 Current GPA
Bachelor of Engineering in Computer Engineering	Gujarat Technological University	May 2016	3.3 GPA

**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, Algorithms, Software Engineering.

## Work Experience

- Oregon State University – EECS Graduate Teaching Assistant** Sep 2017 – present
- Worked with over **500 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

- Behavior based **Botnet** Detection Jan 2019 – present
- Using **Snort** as underlying IDS for signature-based detection and **statistical** methods for behavior and activity-based botnets.
- Virtual Machine Escape Attack Sep 2018 – Dec 2018
- Escaping out of parallels windows virtual machine to macOS host machine.
- Experiment: Can **malware** be detected without having to **decrypt** the traffic? July 2018 – Dec 2018
- Working with multiple VMs, tcpdump and .pcap files; IPsec, TLS Tunnelling for encryption; VPN; Bro and Snort as IDS.
- Experiment: Prevent **control flow hijacking** July 2018 – Sep 2018
- Prevent “system(/bin/sh)” calls on network using Bro IDS.
- Experiment: Detection of **cryptocurrency mining** on network using Bro as Network Intrusion Detector. July 2018 – present
- Working with **Mininet** Simulations, tcpdump and .pcap files; Bro as IDS.
- Denial of Service (**DoS**) Mitigation June 2018 – Sep 2018
- Implementation with C; Using **client-server puzzle**, a Proof of Work (**PoW**) concept
- Automatic Vulnerability Discovery** June 2018 – Sep 2018
- Applying fuzzing (**afl-fuzz**) and symbolic execution (**KLEE**), exploits using python (**pwntools**)
- Post-Quantum Signature** using C language and MIRACL library May 2018 – June 2018
- Implementing Merkle-hash tree, HORS signature and d-time O(1) key-size HORS/Merkle-tree Mini Post-Quantum Signature.
- Digital Forensic Tool** using C language and MIRACL library May 2018 – June 2018
- Implementing Huffman Compression and Rabin Information Dispersal for Mini Forensic Tool for Wireless Sensor Networks
- CTF Competition** Jan 2018 – Mar 2018
- Exploited **Buffer Overflow**, Arbitrary R/W, **Format String** vulnerabilities with **Shell** scripting; SQL Injection; **Return Oriented Programming** employing **pwntools**, 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.
- 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

## Other Experiences and Personal Skills

- Served as Event Coordinator and the Central committee member at National Level Technical Festival.
- Won 1<sup>st</sup> 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.