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# Apoorv Dayal

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## Education

Johns Hopkins University Baltimore, MD  
**Master of Science in Security Informatics / Cybersecurity (CGPA: 3.93 / 4.0)** Dec 2020

Courses: Cloud Computing Security, Security & Privacy in Computing, Software Vulnerability Analysis, Critical Infrastructure Protection, Practical Cryptographic Systems, Global Cybersecurity Trends & Practices

University of Mumbai Mumbai, MH, India  
**Bachelor of Engineering in Information Technology (CGPA : 3.8 / 4.0)** May 2017

Courses: Data Structures & Algorithms, Database Management Systems, Systems & Web Security, Big Data Analytics, Computer Organisation Architecture, Object Oriented Programming

## Experience

Ernst & Young India (EY) Mumbai, MH, India

**Analyst III** **June '17 - July '19**

- Slashed the average turn-around time required for static analysis security testing (SAST) of mobile applications based on OWASP Mobile Top 10 by 40% through python based tool development.
- Achieved an efficiency of 70% over the previous process of monitoring and managing the workflow of the public & internal applications of the enterprise, deploying a DevSecOps pipeline.
- Developed tools & internal frameworks for web/mobile applications security based on OWASP top 10.
- Created Threat Models as a part of SDLC cycle for 100 + web applications.
- Developed system architecture for cloud (AWS /Azure) based deployments of commercial grade apps.
- Created Visualization dashboard using Tableau and Power BI for Cybersecurity Operations incidents.
- Developed Infrastructure automation tools for continuous patch deployment on routers and switches.
- Conducted Penetration Testing exercises on Cyber Physical Systems (SCADA) with a hit-rate of 88%.

Johns Hopkins University Baltimore, MD, USA

**Cisco Research / Teaching Assistant - Object Oriented Software Engineering** **August '19 - Current**

- One Stop Solution for developers, administrators, and managers with quick access to accurate information about cryptographic protocols, tools, and libraries.

## Projects & Research

**My Robot is Flawless, Right? (Autonomous Vehicle Security / Machine Learning)** : Researched and conducted red team exercises, automating using hill climbing techniques to automate and successfully discover potential flaws in autonomous vehicle simulation on TurtleBot3.

**Decentralised Firewall for Malware Detection (Blockchain / Machine Learning)** : Developed an alternative as a more predictive solution to traditional Firewalls (more predictable) and Intrusion Detection Systems using blockchain technology along with autoencoder based Deep learning techniques.

**JSCPG - Secure Code Analysis of Javascript based applications using**

**Graph databases**: Researched on effective ways to implement Secure Code Review of Javascript based frameworks to minimize the number of false positives given by commercial grade tools using CFG, DFD and graph Databases.

**Windows Malware Analysis Research (EternalBlue)** : Conducted forensics and malware analysis, understanding the anatomy of attack of "Wannacry" ransomware as well as EternalBlue exploit.

## Skills

Python, C++, Application Security, Ansible, Network Security, Threat Modelling, Penetration Testing, Secure Code Review, Puppet, Chef, Infrastructure Automation, AWS security, System Architecture Design, Cloud security, Burp Suite, Wireshark, Metasploit, GoLang, Fuzzing, Kubernetes, cppcheck, JIRA, CTF, Tool development, Tableau

## Awards & Certifications

- **Harvard Business School HBX - CORE** (Economics, Accounting & Analytics) **2018**
- **Spotlight Award for Ace Collaborator, Client Champion** (EY) **2018-19**
- **EY Udemy Certification:(Puppet, Ansible, Salt, AWS Solution Architect, Tableau)** **2018-19**
- **Bug Bounties, CTF & Peerlyst Featured Author (Crowd sourced eBook)** **2019**