VARUN GURNANEY

108 W 39th St Apt-11 Baltimore MD 21210   +1 (410) 710-8901   varungurnaney@jhu.edu

EDUCATION:

Johns Hopkins University   AUG 17 – DEC 18

Master of Science - Computer and Information Security / Security Informatics

Related Courses - Network Security, Software Vulnerability Analysis, Security and Privacy in Computing, Critical Infrastructure Protection, Global Trends in Cyber Security, Ethical Hacking, Project Management, Law and the Internet

Government Law College   OCT 16 – MAY 17

Diploma in Cyber Law, Asian School of Cyber Law

Related Courses - Fundamentals of Cyber Law, Ecommerce Legal Issues, Intellectual Property Rights, Cyber Crime Law in India

University of Mumbai   JUN 14 – JUN 16

Bachelor of Engineering; Information Technology

Related Courses - Software and System Security, Advanced Internet Technologies, Advanced Database Systems, Object Oriented Programming, Data Structures, Computer Networks, Software Project Management, Artificial Intelligence, Operating Systems, Cloud Computing

WORK EXPERIENCE:

Johns Hopkins University – Department of Computer Science

Teaching Assistant, EN 601.107 Intro to Programming in Java   AUG 17 – DEC 17
- Grading students on their classwork and homework assignment and providing feedback to students
- Held office hours for solving and debugging programming assignments for students

Ernst & Young (EY), Mumbai   JUN 16 – JUL 17

Analyst, Cyber Security (Financial Services)
- Conducted DC/DR audits and Vendor Risk Assessments from a security perspective for large multi-national banking and insurance companies and prepared high quality reports for the assessments
- Developed Information and Cyber Security policies, procedures, standards and controls for assigned clients of the BFSI sector in line with ISO 27001:2013, ITIL, NIST
- Performed Vulnerability Assessment and Penetration Testing on web applications using Nessus and BurpSuite.
- Presented high quality reports of the identified vulnerabilities to the senior management of the assigned clients along with the steps, workflow and timelines for fixing the vulnerabilities

Infotech Academy, Mumbai

Lecturer, Computer Science   AUG 14 – Jun 17
- Conducted classroom sessions for 180 high school students on Object oriented C++, Data Structures and Web Technologies
- Conducted discussion and assisted students to understand the assignments and grades
- Provided feedback to students on the assigned projects and test papers

CERTIFICATIONS & TOOLS:
- EC-Council - Certified Ethical Hacker - CEH v9 (Certification ID: ECC92556698895)
- Microsoft: .NET Fundamentals (Certification ID: 11547260)
- Python, JSP, C++, Java, C#, HTML, CSS, JavaScript, AJAX, PHP.
- Burp Suite, Nessus, Zenmap, Kali Linux, Android Studio, Xcode, Adobe Photoshop, MS Office.

GRADUATE PROJECTS
- **Threat Modelling for Cryptocurrency:** Conducted an architecture overview, identified the threats and prepared attack-trees for an open source cryptocurrency (DogeCoin) using the Microsoft Threat Modelling tool.
- **Blockchain for Key Management:** Emulated a TCP/IP network protocol and implemented Blockchain for a decentralized key management.
- **Low level memory exploits:** Exploited software vulnerabilities such as Buffer-overflow, Format String, Return-to-libc in given vulnerable C programs. Used GDB and shell-code to gain shell access.
- **Defence-in-Depth for Network Security**: Implemented a Firewall, IDS, IPS and integrated with SIEM on virtual machines. Used tools such as Snort with Pytbull, ufw, pfsense for the project. Studied the strengths and limitations of each of the security tool.
- **War Driving:** Drove around the Johns Hopkins Homewood Campus to search for open Wireless Access Points. Used Kismet on Kali Linux as a network detecting and packet sniffing tool
- **Anomaly Detection of Wireless Sensor Nodes:** Simulated an intrusion on wireless nodes of body sensor network (BSN) using Contiki. Used falling battery levels to detect and prevent the intrusion.
- **Exploiting vulnerable web applications**: Successfully exploited Damn Vulnerable Web Application (DVWA) and bWAPP with high-level difficulty respectively.

MOBILE AND WEB APPLICATIONS:

Designed and developed the following mobile and web applications

- **BabbleChat**: A Web Chat Application (PHP, AJAX, MySQL, MDS).
- **MyOkGoogle**: A Voice Recognition Android App built using Android Studio. (Google Voice API, SQLite)
- **Tidy Mumbai App**: A hybrid Android/iOS app to locate nearby dustbins. (Google Maps, Geolocation API and Cordova).
  Featured on YourStory.com
- **CloudMerge**: A web application which could merge cloud storage platforms such as Amazon S3, Google Drive, Dropbox etc (PHP, MySQL, Kloudless API)
- **BhashSMS**: An SMS WordPress Plugin for ecommerce websites (Woo-Commerce API).
- **TSEC Starter**: Official college Android app to give students notices and alerts (Android Studio). Featured in Hindustan Times.
- **8BitMario:** An 8bit Mario game for a the Computer Graphics class (C, graphics.h library)
- **Websites:** As a freelancer, Designed and developed 5-websites for medical practitioners, eCommerce startups and media companies

LEADERSHIP ACTIVITIES:

- Hosted IEEE Occult Coding Hackathon
- Software Head at Computer Society of India   MAY 13 – MAY 14
- Software Head at iTantra TSEC   JAN 14 – MAR 14