

Vadayath Jayakrishna Menon

PH.D. · COMPUTER SCIENCE

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Education

Arizona State University

Doctor of Philosophy in Computer Science

Arizona, USA

Aug 2019 - Current

- GPA: 4.0
- Research in Cyber Security

Amrita University

Bachelor of Technology in Computer Science and Engineering

Kerala, India

July 2014 - May 2018

- GPA: 9.27/10.0
- Graduated with Distinction

Research Experience

SEFCOM Lab at Arizona State University

Research Assistant

Arizona, USA

Aug 2019 - Current

- Working with Dr. Yan Shoshitaishvili and Dr. Ruoyu "Fish" Wang
- Research topics: Binary Exploitation, Fuzzing, Symbolic Execution, Static Binary Analysis, Reverse Engineering

ForAllSecure

Intern

Pennsylvania, USA

May 2022 - Aug 2022

- Worked with Thanassis Avgerinos and Maxwell Koo
- Worked on implementing a snapshot fuzzer for virtual machines

SEFCOM Lab at Arizona State University

Research Scholar

Arizona, USA

Oct 2018 - May 2019

- Worked under the supervision of Dr. Yan Shoshitaishvili and Dr. Ruoyu "Fish" Wang
- Analyzing binary application software for identifying vulnerabilities

ISI at University of Southern California

Research Scholar

California, USA

Feb 2018 - Oct 2018

- Worked under the supervision of Dr. Christophe Hauser
- Identifying potential leak of pointers through static binary analysis and symbolic execution

Research Publications

Arbiter: Bridging the Static and Dynamic Divide in Vulnerability Discovery on Binary Programs

Massachusetts, USA

31st USENIX Security Symposium (USENIX Security 22)

2022

Jayakrishna Vadayath, Moritz Eckert, Kyle Zeng, Nicolaas Weideman, Gokulkrishna Praveen Menon, Yanick Fratantonio, Davide Balzarotti, Adam Doupé, Tiffany Bao, Ruoyu Wang, Christophe Hauser and Yan Shoshitaishvili

Sleak: Automating Address Space Layout Derandomization

Puerto Rico, USA

The 35th Annual Computer Security Applications Conference

2019

Christophe Hauser, Jayakrishna Menon, Yan Shoshitaishvili, Ruoyu Wang, Giovanni Vigna and Christopher Kruegel

A binary analysis approach to retrofit security in input parsing routines

San Francisco, USA

The Fifth Workshop on Language-Theoretic Security (IEEE CS Security & Privacy Workshops)

2018

Jayakrishna Menon, Christophe Hauser, Yan Shoshitaishvili and Stephen Schwab

Teaching Experience

CSE545: Software Security at Arizona State University

Arizona, USA

Teaching Assistant

Aug 2021- Dec 2021

- Assisted Dr. Ruoyu "Fish" Wang
- Primary duties were helping students with assignments and coursework

Teaching Assistant

Aug 2020- Dec 2020

- Assisted Dr. Ruoyu "Fish" Wang
- Primary duties were helping students with assignments and coursework

Projects

Arbiter

A scalable and precise hybrid vulnerability analysis framework

- A hybrid vulnerability analysis framework that can be used to vulnerabilities that satisfy a given vulnerability description in binaries in a scalable and precise manner.
- Source code available on GitHub

PuzzIL

An intermediate language fuzzer for PHP

- An intermediate language fuzzer for the PHP JIT engine based on top of PhplL.
- Found 2 bugs in the JIT engine of PHP 8.0
- Source code available on GitHub

Vulnerability Research

2022 **Synology NAS 0-day**, Pwn2Own

Vancouver

2018 **CVE-2018-18311**, Heap overflow in Perl interpreter, CVSS 3.0 score: 9.8

Extracurricular Activities

2022 **13th rank globally with team Shellphish**, DEFCON CTF Finals

Las Vegas, USA

2021 **10th rank globally with team Shellphish**, HITB Pro CTF

Abu Dhabi, UAE

2020 **7th rank globally with team Shellphish**, DEFCON CTF Finals

Las Vegas, USA

2019 **11th rank globally with team Pwndevils**, Dragon CTF

Warsaw, Poland

2019 **First runners up with team Pwndevils**, CSAW Embedded Security Challenge

New York, USA

2016 **First runners up with team bi0s**, CSAW CTF 2016 (India)

Uttar Pradesh, India