+1 (617) 580 7038
gkgokulkrishna33@gmail.com
gokulkrishna.com

Gokulkrishna P Menon

Work Experience

2018 to present — **Security Researcher**, *Arizona State University*, Tempe.
- Developed a hybrid fuzzing framework called FlakJack that combines the efficiency of mutation-based fuzzing with dynamic patching.
- FlakJack introduces several patching strategies that can be chosen depending on the bug found, enabling effective patching of Linux binaries on the go. The project is currently under submission for a conference.
- Participated in CTF competitions with Shellphish since 2018, with a focus on security challenges in the areas of reverse engineering and web security. Teamed up with other security experts to solve challenges based on Reverse Engineering and Web Application Security. Consistently placed in the top 10 at DEF CON CTF finals.

2015-2018 — **Security Researcher**, *Amrita University*, Kollam.
- Participated in CTF competitions with team bi0s and research projects focused on web security, reverse engineering, and web privacy.
- Found and reported security vulnerabilities in CMSes, earning CVEs.
- Collaborated with security teams to remediate vulnerabilities and ensure timely patching.

June 2017 - August 2017 — **Security Engineer Intern**, *Mobiliya*, Pune.
- Developed and implemented Ethereum contracts with various functions.
- Created and managed accounts on the Ethereum network.
- Designed and implemented secure voting mechanisms for proposals.

Teaching Experience

2023 — **Teaching Assistant for CSE 365**, *Introduction to Information Assurance course, assisting Dr. Fish Wang in lectures, grading, and mentoring over 100 students, while improving course content with fellow TAs.*

2019 — **Teaching Assistant for CSE 365**, *Conducted sessions, graded assignments, and provided mentoring and support to students for Introduction to Information Assurance course.*

2019 — **Teaching Assistant for CSE 598**, *Took sessions and graded assignments as a teaching assistant for Dr. Tiffany Bao in CSE 598 - Computer Security: Techniques and Tactics course.*

Education

2019-2023 (Expected) — **Masters in Computer Science**, *Arizona State University*, Tempe, Arizona.

2014-2018 — **Bachelors in Computer Science and Engineering**, *Amrita University*, Kollam, Kerala.

Publications

2022 **Arbiter: Bridging the Static and Dynamic Divide in Vulnerability Discovery on Binary Programs**, *Jayakrishna Vadayath, Kyle Zeng, Nicolaas Weideman,* ***Gokulkrishna P Menon****, Yanick Fratantonio, Davide Balzarotti, Adam Doupé, Tiffany Bao, Ruoyu Wang, Christophe Hauser, and Yan Shoshitaishvili*, in Proceedings of the USENIX Security Symposium.

Achievements

2020 **CVE 2019-14769, 14770, 14771**, *Discovered two Cross Site Scripting and one Remote code execution bug in Backdrop Content Management System.*

2019 **NullCON CTF**, *As part of Shellphish, secured first position.*

2018 **BlackHat Asia**, *Awarded scholarship to attend BlackHat Asia 2018.*

2016 **CSAW Capture The Flag Finals**, *As part of team bi0s, secured first runners up position.*

Workshops

2017 **Web Application Security workshop**, *As part of Team bi0s, conducted a two-day workshop in Sree Narayana College of Engineering*, Kochi, India.

2017 **InCTF**, *Organized and authored challenges for the International Capture the Flag contest in 2015 and 2017 as part of Team bi0s..*

2016 **InCTF Junior**, *Organized InCTF Junior, a Capture the Flag style contest aimed at cultivating cyber security awareness and training in high school students.*

2016 **PSG College Of Technology**, *Workshop on Web Application Security for Professionals as part of annual PSG Tech Cyber Security awareness week*, Coimbatore, India.

Project

2019 to present **FlakJack**, *Actively working on a framework to improve fuzzing by dynamically patching the Linux binaries to find deeper bugs*, The objective is to develop a framework that dynamically patches crashes discovered during fuzzing to enable the discovery of deeper bugs in Linux binaries. The project is currently under submission for a conference.

2021 to present **Open-Source Contribution**, *Contributed to and maintained the open-source binary analysis framework Patcherex. I have also improved Phuzzer, a Python wrapper for interacting with fuzzers such as AFL.*

2018 **Privacy badger extension**, *Developed a Chrome extension that offers protection against browser fingerprinting and Spectre attacks. The extension was open-sourced and is based on the Web-privacy/Privacy-Extension GitHub repository.*

Technical skills

Languages C, C++, Python, PHP, JavaScript, MySQL