

# Rohit Narayanan M

## Security Engineer



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## Education

### Artificial Intelligence Engineering

B.Tech Amrita Vishwa Vidyapeetham

2020 – May 2024 | Kollam, India  
CGPA: 8.54

## Events Organized

### Amrita InCTF 2021

- Organized and served as a core committee member for **InCTF Junior**, **InCTF Nationals**, and **InCTF Professionals**, where there were overall **20,000** participants.

### InCTF Internationals 2021

- Designed and hosted innovative challenges for India's Number 1 international Capture The Flag (CTF) competition.

### bi0s CTF 2022 & 2024

- CTF challenge creator for **3+** web security challenges.

## Work Experiences

### Traboda Cyberlabs

#### Security Engineer

Mar 2024 – present | Kollam, India

- Conducted VA/PT for over **10+** clients and collaborated with them to mitigate the identified vulnerabilities.
- Designed and developed **50+** CTF challenges for various companies for their internal CTF competitions.
- Trained over **100+** students and professionals through various student and corporate training sessions on web application security.

#### Intern

Feb 2021 – Feb 2024 | Kollam, India

## Learning Experiences

### Team bi0s

#### Web Application Security Researcher

Aug 2020 – Apr 2024 | Kollam, India

- As the **team captain** of bi0s from 2022 to 2024, I led our **30** member CTF team to excel in CTF competitions, achieving the **#1** ranking in India under my leadership.
- As a category lead, I mentored and trained **10+** junior members, enhancing their skills and knowledge in web security.
- Wrote **5+** technical blogs on various CTF write ups.

## Projects

### Vulnerability Detection on Codebase using Bidirectional NLP

Apr 2024

- Developed an LLM model using transformer technology and bidirectional NLP methods to identify vulnerabilities in source code.
- Pre-trained the LLM using MITRE and CWE databases.
- Solved for vulnerability detection and automatic patch creation for web application vulnerabilities.
- Supports languages include PHP, Java, and XXX.
- Potentially can integrate into the SDLC for automatic detection of vulnerabilities and provide automatic patches.
- Increases overall developer efficiency by creating automatic patches and speed up the patching process.

- Owned the entire deployment and managing of the CTF hosting platform and its infrastructure.

## Talks & Workshops

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### Demystifying Web Security - InCTF 2021 [🔗](#)

- Delivered a talk on the fundamentals of web security, providing an overview of essential concepts and practices.
- Facilitated two dynamic workshops designed to introduce school students to the basics of web security.
- Led a 5-week boot camp on web security for around 100 college students, covering foundational topics in web security and practical applications.

### Intro to Java Deserialization [🔗](#) (internal)

Gave a talk on the basics of Java deserialization, different tools and methods to find them, and ways to prevent it.

### Basics of HTTP Request Smuggling [🔗](#) (internal)

Delivered a session about the different types of Request Smuggling attacks, how to find them, and how to prevent them.

## Skills

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### Programming

Python, Java, C++, C, Go, Javascript

### Web development

PHP, Flask, NodeJS, Express, Selenium

### Databases Management

MYSQL, SQLite, PostgreSQL, MongoDB, NoSQL

### Dev-ops

Docker, Docker-compose, Git,

### Intrusion detection robot using ROS [🔗](#)

Jun 2022

- Used Raspberry Pi in combination with ROS to design Four wheeled security Robot that can be controlled by using a laptop or be given a predefined path.

### Other Projects

- File Sharing
- Data-Compression-LZW [🔗](#)
- Handwritten Digit Recognition [🔗](#)
- Regression using ADMM on high dimensional dataset [🔗](#)

## Achievements

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### DomeCTF 2022 - Winner [🔗](#)

Kerala Police Cyberdome

**Winner** of Capture The Flag competition organized as a joint venture by Kerala Police Cyberdome and Beagle Security at c0c0n XV.

### Cyber Mayhem 2022 - 6th

Hack The Box

Attack-Defence Style Capture The Flag competition conducted by Hack The Box where teams of 4 face each other in separate rounds

### ISITDTU CTF 2022 - Top 10

DuyTan University, Vietnam

Represented India at Capture The Flag competition held in Vietnam organized by DuyTan University.

### BSidesSF CTF 2022 - 2nd place

BSides San Francisco

### Securinets CTF 2021 - 2nd place

Securinets

### WPI CTF 2021 - 2nd place

Worcester Polytechnic Institute

## Publications

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### BiT5: A Bidirectional NLP Approach for Advanced Vulnerability Detection in Codebase [🔗](#)

Procedia Computer Science

2024

### ADMM: Computational Analysis of Lasso and Ridge on Fraud Detection [🔗](#)

IEEE

2024