

# Ridham Bhagat

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## EDUCATION

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- **Master of Science in Cybersecurity, Northeastern University** Sept 2024 – May 2026  
Coursework: Computer Systems Security, Network Security, Software Vulnerabilities and Security  
GPA : 4.0
- **Bachelor of Technology in Computer Science and Engineering, Shiv Nadar University** May 2019 – May 2023

## TECHNICAL SKILLS

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- **Cybersecurity:** Web/Network Penetration Testing, DevSecOps, Secure Code Review, Binary Exploitation
- **Cloud and DevOps:** AWS, GCP, Docker, Kubernetes, Terraform, Digital Ocean, Jenkins, Run Pod, Linux, CDN
- **Security Tools:** BurpSuite, Jadx, Nmap, Iptables, Wireshark, Ghidra, GDB, Pwntools
- **Software & Data Technologies:** Spring Boot, NodeJS, MySQL, MongoDB, Graph QL, Angular, Pandas, Numpy, Smart Contract Development, GNS3
- **Programming Languages:** Java, JavaScript, Python, Rust, C, C#, x86 Assembly, Bash, Go, Solidity

## WORK EXPERIENCE

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**Research Assistant at Northeastern University** Sept 2024 – Present

- Assisted Professor Ziming Zhao to reverse engineer the **telematics module**.
- Carried out **signal analysis** for reverse engineering and identification of the microcontroller on the module

**Software Engineer at Dell Technologies** Aug 2023 – Feb 2024

- Revamped old legacy backend systems and migrated them to Kubernetes.
- Integrated **DevSecOps** into the new applications pipeline resulting in prioritization of **resolution of security holes** like vulnerable dependencies in the applications.
- Implemented more sophisticated **logging mechanism** resulting in ease in monitoring leading to **faster triaging** of production issues.
- Developed a **utility tool to query Elasticsearch** for logs, performing SQL-like joins and filters on multiple indices utilizing **hashmaps, Roaring bitmaps** and **GraphQL**

**Freelance Security Engineer at [TechKareer](#)** March 2023 – May 2023

- Carried out code audits to identify vulnerabilities in existing software stack and Integrated DevSecOps

**Embedded Firmware Engineer - Part Time at Raptee** Apr 2021 – Feb 2022

- Programmed **firmware** for the Power Distribution Unit (PDU) and Vehicle Control Unit (VCU) peripheral interface
- Compiled **custom embedded Linux images** (Automotive Grade Linux) with **GPS and LTE support** for VCU.
- Researched ways to **reverse engineer** the product to make it more secure

## ACADEMIC PROJECTS

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- **Binary Exploitation** - Used Pwntools library to create format string exploits automatically and built complex Return Oriented Programming chains involving libc function calls & system calls for multiple challenges. Made use of advanced techniques like stack pivoting and bypassing canary to achieve code execution.
- **Cryptographic Chain of Custody** - Implemented a secure cryptographic system that enacted a chain of custody between multiple custodians by providing integrity and non-repudiation. Used the OpenSSL library for cryptographic operations.
- **QOS AP** - Created a plug and play AP with custom QOS rules to reduce latency while playing online games.

## CERTIFICATIONS & ACHIEVEMENTS

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- Utilized **ret2plt** to leak function addresses from **.got** table and popped a shell on a remote server to bypass **ASLR** in a CTF.
- Represented Northeastern University as part of a team in the **CCDC Invitationals**, a prestigious blue team cybersecurity competition, where we achieved 3rd place.
- Representing Northeastern university at **MITRE embedded CTF competition**. Currently working on finding software bugs and improper cryptographic implementations.
- Currently in the competing roster for **NCAE CyberGames** at Northeastern University.