KAUSTUBH BM

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GitHub ◇ Linkedin

PERSONAL PROFILE

Goal-oriented and hardworking cybersecurity enthusiast with an year of experience as a part-time consultant in the Automotive Security industry. Skilled at cryptography and worked on building secure architectures for various automotive use cases. Passionate about coding and a quick learner with an eagerness to make a name for myself in the Information Security domain.

EDUCATION

Manipal Institute of Technology, Manipal *July 2019 to Present*
B.Tech in Computers and Communication Technology
completed 6th semester with a 8.73 CGPA

Stanford School of Engineering *Dec 2020 to June 2021*
Stanford Advanced Cybersecurity Program
Secured 2nd position in the cohort with 97.08%

Narayana Junior College *April 2017 to March 2019*
12th TS State Board Exam, completed with a 9.42 CGPA

Bharatiya Vidya Bhavans Public School *April 2016 to March 2017*
10th CBSE Board Exam, completed with a 10 GPA

WORK EXPERIENCE

Associate Security Researcher Consultant *Oct 2021 to Present*
SecureThings *Part-Time*

- Working with the team in designing security related protection algorithms for various scenarios in the automobile sector.
- Building a secure architecture for communication between a smart vehicle and a mobile phone.
- Prepare well-defined documentations for the respective codes and APIs created.

Mentee in the Microsoft Cybersecurity Engage Program *May 2022 to June 2022*
Microsoft

- Underwent 23 sessions of training in various areas of cybersecurity.
- Compiled a research oriented document on stratergies to deal with attacks on critical infrastructure as the final project.

Board member | Cryptography Subsystem Head *Jan 2020 to Present*
Cryptonite

- Spearheaded the hosting and challenge creation of an international capture the flag event with 1000+ participants from all around the globe.
- Worked on numerous CTFs with the team and ranked 12th nationally.
- Conducted interviews and mentored new recruits during their task phase.
- Hosted seminars on cryptography and trained juniors in the same.
- Was pivotal in the qualification of the team for the finals of CSAW-CTF (2021) and InCTF (2021).

- Propelled the team into securing the 3rd position globally in the Securebug Loki CTF (2021).

Student Intern *July 2021 to Oct 2021*
SecureThings

- Developed a novel implementation of a cryptographically secure algorithm to facilitate secure communication between ECU's in an automotive vehicle assuming a zero-trust scenario.

PROJECTS

LPC-1768 Distance Calculator

- This is created using a HC-SR04 Ultrasonic Sensor to measure the distance between an object placed in front of it.
- This is then interfaced onto a LCD display using a LPC-1768 micro-controller.
- Link to the project

Necron's Voyage

- Created a personal blog site using a static site generator where I could document my projects and other interesting works.
- The website is made using Jekyll and Github Pages.
- Link to website

Spammy

- Spammy is an Email-Spammer interface which can be implemented in various applications to spam/send multiple emails to one or many users at the same time.
- The user can spam emails using their own account via our secure authentication feature.
- You can also send emails through a randomly generated account to maintain your privacy and anonymity.
- It also stores all the previously sent emails of an account in a database and allows the user to resend a previously sent email.
- Link to the project

Write-ups for CTF challenges

- A well documented collection of solutions to multiple CTF challenges.
- Link to the repository

Wireless Water Level Indicator for an Overhead Tank

- Added wireless support to an off-the-shelf wired water level indicator by soldering the level indication points to GPIOs on a ESP-32 Wi-Fi module and then programming the ESP-32 MCU as a HTTP server.
- Developed an android app that communicates with the ESP-32 module as a client and displays the water level in real-time.

TECHNICAL STRENGTHS

- Proficient in Python, Java, C++, C.
- Well versed with Cyber-Security concepts like Web Exploitation and Cryptography.
- Well versed with ARM Assembly and Embedded C coding.
- Hands on with Ubuntu, Kali and other Debian based distros.
- Hands on experience with networking tools like Wireshark, Cisco Packet Tracer, NS3 and Nmap.

- Proficient at clear and precise documentation using markdown.
- Developed Apps with Android Studio.
- Well versed with the git version control system.
- Familiar with Frontend Web development (HTML, CSS, JavaScript).
- Familiar with MySQL.

COURSEWORK & CERTIFICATIONS

- Stanford Advanced Cybersecurity Program -Stanford School of Engineering
- Capture the Flag Finalist (CSAW-CTF) - New York University
- Capture the Flag Player (InCTF) - Amrita University
- Mathematical Foundations for Cryptography - University of Colorado System
- Cryptography and Information Theory - University of Colorado System
- Classical Crypto-Systems and Core Concepts - University of Colorado System
- Number Theory and Cryptography - University of California San Diego
- Blockchain basics - University at Buffalo
- Link to all certificates

ACCOMPLISHMENTS

- Secured 2nd rank in the Stanford Advanced Cybersecurity Program in the 2020-21 Cohort.
- Selected as a Mentee for Microsoft Cybersecurity Engage (2022).
- Participated in over 50 Capture the flag (CTF) competitions with Cryptonite and are currently 12th in India (2021).
- Selected as a finalist for CSAW CTF 2021 conducted by NYU Tandon School of Engineering and IIT Kanpur.
- Selected as a finalist for InCTF 2021 Conducted by Amrita University.
- Class representative (2019-2020).
- Placed 2nd in MIT Blitz chess tournament (2022).
- Placed 8th in the MAHE Open Chess Tournament (2020)