

Sambhrant Maurya

1st Year Postgraduate

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Education

Indian Institute of Technology, Kanpur

M.Tech. in Computer Science
Expected: June 2022
CGPA: 10 / 10

Institute of Engineering & Technology, Lucknow

B.Tech in Mechanical Engg.
Graduated: June 2019
Percentage: 76.62%, Honors

St. Mary's School, Mirzapur

Senior Secondary: 90.6%
Secondary: 92.4%

Courses and Grades

2020-2021-II (Current)

Computer Systems Security

Modern Cryptology

Statistical Natural Language Processing

2020-2021-I

Introduction to Machine Learning
Grade: A

Data Mining
Grade: A

Advanced Compiler Optimizations
Grade: A

Key Skills

Languages

- *Experienced:* C, Java, Python
- *Familiar:* C++, Javascript

Tools and platforms

HTML, SSH, Linux, Windows

Interests

- Cyber Security
- Adversarial Machine Learning

Projects

Adversarial Attacks in Natural Language Processing

Under Prof. Ashutosh Modi | Jan'21 - current

Did a literature survey of the latest research papers published in this field. Also proposed a novel attack method on text based on Misspelling Oblivious Embeddings from Facebook. Used the *TextAttack* framework to implement this attack on some latest Neural Network classifiers.

Breaking Cryptosystems

Under Prof. Manindra Agrawal | Jan'21 – Current

Broke various cryptosystems of the game “Escaping the Caves” – Substitution Cipher, Playfair Cipher, 6-Round DES, EAEAE (A variation of SASAS cipher) and RSA.

Cyber Security Essentials

Under Prof. Sandeep Shukla | Jan'21 – Current

Used the platform rootsh3ll labs to perform tasks like network reconnaissance using nmap, live network traffic analysis using Wireshark, WLAN protocol analysis using aircrack-ng, cracked WEP and WPA-2 passwords, SQL injection attacks, CSRF and XSS attacks.

Data Mining for Analysis of Air Pollution in India

Under Prof. Arnab Bhattacharya | Sep'20 – Dec'20

Used various data mining tools to collect data and analyze the Air Pollution trends in various states of India for the period 2008-2014. Also analyzed the impact of number of vehicles, factories and population density of a region on concentrations of SO₂, NO₂ and RSPM in that region.

Ethical Hacking on a Local Area Network

Self | Dec'20 - Jan'21

Designed various hacking tools in python using the scapy library, like *remote-keylogger*, *arp-spoof*, *dns-spoof*, *network-scanner*, *packet-sniffer*, *reverse-backdoor*, *website-crawler*, *netcut* and *file-downloads-spoof*. Also managed to bypass https for many of these modules using sslstrip. Learned how to package these tools into .exe files and how to social engineer them while bypass antivirus programs on the target machine.

Achievements

1. **GATE 2020:** Secured All India Rank 239 among 97481 candidates
2. **First prize:** Best autonomous robot and best manual robot in Robotics event held at Institute of Engineering & Technology, Lucknow

Position of Responsibility

1. **Teaching Assistant** | Fundamentals of Computing (ESC101), CSE Department, IIT Kanpur.
2. **Editor at gateoverflow.in** – A platform for mentoring students for GATE CSE examination (Feb'2019 – present)