Sambhrant Maurya

1st Year Postgraduate

Department of Computer Science and Engineering, IIT Kanpur

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Education

IIT 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
Intermediate, 90.6%

Key Skills

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

Tools and platforms
HTML, SSH, Linux, Windows

Interests

Cyber Security – Ethical Hacking, Malwares, Cryptology

Data Science – Data Mining, Adversarial techniques in Machine Learning

Volunteer work

- Editor on gateoverflow.in – A platform for mentoring students for GATE CSE (Feb'2019 – present)

- Participant, Fridays for Future – A movement focusing on climate change (Mar'19 – June'19)

Courses

2020-2021-II (Current)

1. Computer Systems Security (CS628) *(Prof. Sandeep Shukla)*

2. Modern Cryptology (CS641) (*Prof. Manindra Agarwal*)

3. Statistical Natural Language Processing (CS779) *(Prof Ashutosh Modi)*

2020-2021-I

1. Introduction to Machine Learning (CS771) *(Prof Piyush Rai)*
   Grade: A

2. Advanced Compiler Optimizations (CS738) *(Prof Amey Karkare)*
   Grade: A

3. Data Mining (CS685) (*Prof Arnab Bhattacharya*)
   Grade: A

Projects

Adversarial attacks in Natural Language Processing
Under Prof. Ashutosh Modi(CS779A) **|** *Jan'21 - current*
This project focuses on exploiting blind spots in NLP models and involves doing a literature review of adversarial attacks done on text in Natural Language Processing. It also involves hands-on experience with "Textattack", an open source python library for adversarial training in NLP.

Ethical hacking on a Local Area Network
Self **|** *Dec'20 - Jan'21*
Designed various hacking tools in python, like remote keylogger, arp-spoofer, dns-spoofer, network scanner, packet sniffer, reverse backdoor, website crawler, netcut and file download spoofer. Also managed to bypass https for many of these modules using sslstrip.

Data mining for analysis of Air Pollution in India
Under Prof. Arnab Bhattacharya(CS685) **|** *Sep'20 – Dec'20*
Used various data mining tools to collect data and analyze the rising levels of Air Pollution in various states and union territories of India for the period 2008-2014, and how the air pollution is correlated with the number of vehicles, factories and population density in each state.

Interprocedural dataflow analysis in LLVM using value contexts
Under Prof. Amey Karkare(CS738) **|** *Sep'20 – Dec'20*
Implemented the research paper of the same name, originally published for SOOT by Rohan Padhye and Prof Uday Khedkar (IIT Bombay). Designed a fully context sensitive forward general interprocedural analysis framework in LLVM and tested the framework on Sign Analysis.