MANJYOT SINGH NANRA

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EDUCATION

Indian Institute of Technology, Kanpur
MTech | CSE ***CGPA: 9.71/10***
2021 - Present Kanpur, India

University of Mumbai
BE | CSE ***CGPA: 9.04/10***
2016 - 2020 Mumbai, India

Thakur College of Science & Commerce
XII, HSC ***Percentage: 86.15%***
2016 Mumbai, India

Swami Vivekanand International School
X, SSC ***Percentage: 88%***
2014 Mumbai, India

ACCOMPLISHMENTS

- Awardee, **Academic Excellence Award**, Indian Institute of Technology, Kanpur
- Secured **All India Rank 169** in **GATE CS 2021** amongst 101922 candidates
- Secured **All India Rank 349** in **GATE CS 2020** amongst 97481 candidates
- Smart India Hackathon(SIH) 2019 **Winner**

COURSEWORK

MTech Courses *Excellent Performance

- Introduction to Machine Learning
- Data Mining
- Introduction to IoT
- Computational Cognitive Science*

BE Courses

- Data Structures & Algorithms
- Operating Systems
- Database Management System
- Object Oriented Programming
- Computer Networks

SKILLS

Languages
Python, C, C++

Utilities
SQL, Git, Scikit-learn, LaTeX, Numpy, Pandas, Django

RESPONSIBILITIES(POR)

- **Teaching Assistant :** Introduction to ML
- **Teaching Assistant :** Computer Organization

MISCELLANEOUS

- Completed Deep Learning Specialization Certification on Coursera
- Volunteered for Computer Literacy Program under Citizens Association for Child Rights(CACR)

RESEARCH EXPERIENCE

Low Cost Real Time Source Apportionment(RTSA) using ML (M.Tech Thesis)
Guide: Prof Purushottam Kar *Mar 2022 - Present*

- Introduced a **new paradigm for RTSA** using the data received from low-cost air quality sensors(LCAQ) instead of expensive instruments
- Implemented and compared various ML models to **predict concentration breakdown of Organic Aerosols** in the atmosphere
- Performed analysis to **visualize the time series data** to identify trends in the data

Robust PMF Algorithm for Source Apportionment(M.Tech Thesis)
Guide: Prof Purushottam Kar *Mar 2022 - Present*

- Implementing **Novel Robust Positive Matrix Factorization(PMF)** based algorithm to get breakdown of concentration level of Organic aerosols in atmosphere

WORK EXPERIENCE

Systems Engineer - Seclore Technology
Mumbai, India *Dec 2020 - July 2021*

- Worked on maintaining company infrastructure, **automating deployment and configuration** for scalable and fault tolerant delivery using Python and DevOps tools

Intern - Cateina Technologies
Mumbai, India *June 2018 - July 2018*

- Developed a web based content management system portal using Python and Django

TECHNICAL PROJECTS

*COURSE PROJECT

SNORT based Intrusion Detection System*
*Instructor: **Prof. Sandeep Kumar Shukla*** Jan 2022 - Apr 2022

- **Trained various ML models** on NSL-KDD dataset for **Network intrusion detection**
- **Performed real time DoS attacks** from Kali Linux Machine to Ubuntu Machine
- Used **SNORT to capture the packets**, preprocessed the packet information and applied ML models on it to detect intrusion

Smart Visitor Recognition*
*Instructor: **Prof. Priyanka Bagade*** *Aug 2021 - Nov 2021*

- Developed a Machine Learning based Smart Visitor recognition system
- **Performed face recognition** by encoding the facial features and **implemented real time notification delivery**

Analysis of Accidental Deaths and Suicides in India*
*Instructor: **Prof. Arnab Bhattacharya*** Aug 2021 - Nov 2021

- Preprocessed data provided by NCRB, **extracted tables from PDF files**, **merged data from various sources** into CSV files
- **Performed exploratory analysis and visualisation** to generate insights regarding year wise trends across Indian states

IoT based irrigation system*
*Instructor: **Prof. Priyanka Bagade*** Aug 2021 - Oct 2021

- Simulated IoT based irrigation system to gather humidity and moisture data from sensors at various locations
- **Trained a neural network** to control water flow for each edge device based on humidity and moisture data

Resilient Mail Filter Container
Company Project(Seclore) Dec 2020 - Feb 2021

- Worked on **enhancing the resilience of the Docker container** used to filter mail deployed on AWS
- Automated process of getting events from AWS whenever the docker container to filter emails crashes, and loading unprocessed mails in the queue of the old container into the new container to make sure no mail gets lost

One Click Research Solution(Self Project)
Smart India Hackathon Winner Project Mar 2019

- Developed Web app to **handle a student's projects** in efficient and organized manner
- Used Python, Django framework, HTML and CSS to implement the project