



VIRAT KUMAR

Roll No.: 2106201

Bachelor of Technology

Computer Science and Engineering

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GitHub Profile

LinkedIn Profile

EDUCATION

- **National Institute of Technology, Patna** 2025
B.Tech Computer Science and Engineering CGPA: 7.86 (till 6th sem)
- **DAV Public School, Patna** 2020
Intermediate, Central Board of Secondary Education, Delhi Percentage: 88.2
- **Bijendra Public School, Purnia** 2018
Matriculation, Central Board of Secondary Education, Delhi Percentage: 90.2

PROJECT

- **Design of Network Intrusion Detection System for Smart Cities** Aug 2024 – Dec 2024
Research Project, NIT Patna
 - Designed a Network Intrusion Detection System (NIDS) tailored for smart cities, addressing unique challenges and vulnerabilities in IoT networks.
 - Utilized the UNSW-NB15 dataset, comprising over 175,000 records, to train and evaluate machine learning models, achieving a maximum accuracy of 94.51%.
 - Implemented advanced machine learning algorithms, including Decision Tree, Random Forest, and Multi-Layer Perceptron, enhancing detection capabilities of cyber threats.
- **Malware Detection using Machine Learning Algorithms** Feb 2024 – May 2024
Implemented a machine learning-based approach for malware detection using features extracted from PE headers.
 - Tools & technologies used: Python, scikit-learn, TensorFlow, Pandas, NumPy, Matplotlib
 - Preprocessed the dataset, extracted relevant features from PE headers, and applied feature scaling and selection techniques. Normalized feature values using Z-score normalization and handled outliers with the IQR method
 - Developed and tested models using Logistic Regression, Artificial Neural Networks (ANN), and Random Forest algorithms, achieving a highest accuracy of 99.5% using Random Forest.
- **SUDOKU GAME** May 2023
Engineered a logic-driven game ensuring each digit from 1 to 9 appears precisely once in rows, columns, and boxes.
 - Tools & technologies used: HTML, CSS, JavaScript, Visual Studio Code
 - Through this project, I garnered hands-on expertise in game development, front-end design, and logical reasoning, substantiating my proficiency in these domains. [GitHub Link](#), [Live Demo Link](#)

WORK EXPERIENCE

- **SANKALP** May 2022-present
Tutor & Mentor Patna
 - Provided free and quality education to needy students through a non-profit organization.
 - Worked collaboratively with a dedicated team of 100+ members to create effective teaching methods, ensuring personalised attention to each student's needs.

TECHNICAL SKILLS AND INTERESTS

Languages: C/C++, Python

Developer Tools: Visual studio code, Android studio, GitHub, Arduino

App/Web Development: Flutter, HTML, CSS, Javascript

Cloud/Databases: Firebase, MySQL

Coursework: Data Structures & Algorithms, Object-Oriented Programming, Artificial Intelligence, Machine Learning, Operating System, Computer Network, Database Management System

POSITIONS OF RESPONSIBILITY

- **Technical Member** ROBOTICS CLUB, NIT PATNA Feb 2023-present
- **GDSC Flutter Team Member** GOOGLE DEVELOPER STUDENT CLUBS, NITP Sep 2023-present

ACHIEVEMENTS

- **Successfully Completed Minor Degree Course in Robotics** Nov 2024
Department of Mechanical Engineering, NIT Patna
- Successfully solved 200+ coding questions in Codechef, GFG, Leetcode.
- Secured multiple medals, awards, and T-shirts in district-level chess tournaments and chess competitions organized by CBSE and NIT PATNA.