

Mannat Pal

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EDUCATION

Vellore Institute of Technology

Integrated M.Tech - Computer Science and Engineering, Cumulative GPA- 8.82

Bhopal, M.P.

Oct. 2022 – Present

MASD Public School

Class XII, Percentage- 86.4%

Panipat, HR

March 2021

Airforce School

Class X, Percentage: 89.4%

Gorakhpur, U.P.

April 2019

PROJECTS

Malware Analysis for Android APK using Machine Learning | Python, Androguard, Scikit *September 2025*

- Conducted static (**80%**) and dynamic (**20%**) analysis on Android APKs to detect malicious behavior and code anomalies. Extracted key features such as permissions, API calls, and intent filters for machine learning-based classification.
- Implemented Random Forest, XGBoost, and Logistic Regression models, achieving **95% detection accuracy** on benchmark datasets. Automated feature extraction and risk scoring, reducing manual analysis time by **60%** and improving consistency across malware samples.
- Available here:** [Malware Analysis GitHub](#)

Encryption & Decryption Algorithms | Python

August 2023

- Engineered and optimised a suite of **10+ encryption and decryption algorithms** — including RSA, Diffie-Hellman, AES, IDEA, HMAC, Rail Fence, Row Transposition, and ADFGVX — achieving **99% functional accuracy** across all test cases.
- Designed modular encryption pipelines and improved algorithmic efficiency by **30%** through refactoring and optimised key-generation logic.
- Tested algorithm reliability on multiple benchmarking datasets and automated scripts, achieving **90–100% consistency** in encryption–decryption.
- Available on GitHub:** [Encrypt/Decrypt Algorithms Repository](#)

TECHNICAL SKILLS

Core CS Skills: Object-Oriented Programming (OOP), Computer Networking, Database Management Systems (DBMS), Operating Systems (OS)

Developer Tools: GitHub, VS Code, Docker, AWS, SQL Developer

Cybersecurity & Malware Analysis: Androguard, APKTool, Cuckoo Sandbox, Burp Suite, OWASP ZAP, Metasploit, Nmap, Wireshark, SQLMap, Nikto

Machine Learning: Scikit-learn (Decision Tree, Random Forest, Naive Bayes), XGBoost, Pandas, NumPy, Matplotlib

LEADERSHIP & EXTRA-CURRICULAR ACTIVITIES

Achievements and Responsibilities

- Organized and managed **5+ technical events** related to web technologies as the **Event Management Lead** of the **Mozilla Firefox Club, VIT Bhopal**. (*April 2024 – March 2025*)
- Created and supervised content for **10+ cybersecurity events and awareness campaigns** as the **Content and Creation Lead** of the **Cyber Warriors, VIT Bhopal**. (*December 2023 – April 2025*)
- Managed technical content and conducted **3+ Events** on Linux and open-source tools as the **Content Lead** of the **Linux Club, VIT Bhopal**. (*December 2023 – May 2024*)
- Serving as the **Class Representative** for the branch, coordinating between faculty and over 70 students to address academic and administrative matters, achieving timely resolution of 90% of reported issues. (*October 2022 – Present*)