Pratyut

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Education

BML Munjal University, Gurgaon **November 2021 – September 2025**
Bachelor of Technology in Computer Science And Engineering *Current CGPA: 7.54/10*

City Montessori School, Lucknow **April 2017 – March 2021**
ISC/ICSE *Percentage: 94.75%/91.87%*

Relevant Coursework

- Attack and Defence
- Data Structures
- Computer Networks
- Database Management
- Security Audit
- OOP using C++
- Blockchain
- Operating System

Experience

IIT Bhilai **January 2025**
Intern *Bhilai, Chhattisgarh*

- Implemented parallel computing solutions utilizing **CPU/GPU multi-threading** in **C** to optimize detection of weak **2048-bit RSA** keys vulnerable to factorization attacks.
- Developed and optimized **C** code for concurrent processing across multiple cores, contributing to research methodology for identifying cryptographic vulnerabilities in **RSA** key generation and validation processes.

BML Munjal University **December 2022 – July 2024**
Software Developer *Kapriwas, Haryana*

- Spearheaded development of database management system using **EJS, Node/Express, MongoDB**, enabling **28%** paperwork reduction across 11 departments and Designed event report system using **Flutter, Node.js, MongoDB & JWT**, achieving **95%** faster report generation
- Led IQAC full-stack webpage development, reducing file search time by **86%** and implemented data quality measures, reducing workload by **60%**

Projects

Blockchain | *PYTHON* **Github**

- Developed a fully **decentralized blockchain** implementation for cryptocurrencies from scratch, utilizing the **latest cryptography protocols**.
- Employed **peer-to-peer technology** and networks to enhance communication efficiency, achieving a 4% improvement in mining time through **multi-threading on the CPU**.
- Applied robust error handling mechanisms, enabling automatic transitions.

BeeHive | *RUST, REACT* **Github**

- Developed and implemented a comprehensive **Windows Registry Hive analysis tool** using **Rust and React.js**, enabling efficient comparison and visualization of registry files through an intuitive interface for **forensic analysis**.
- Designed and implemented registry comparison functionality with optimized diff algorithms, enabling officers to efficiently analyze and identify changes between similar registry hives through an interactive dashboard interface.

Invisible Image Watermarking | *NODE.JS, HTML, CSS, EJS, PYTHON, JAVASCRIPT* **Github**

- Engineered a full-stack web-page using **Node.js, Express.js, HTML, CSS, EJS, Python, and JavaScript** to implement spatial and DCT watermarking for videos and images.
- Used **system commands** for execution of **Python scripts** for LSB and DCT watermarking through JavaScript, achieving a 67% increase in code efficiency and a 27% reduction in embedding time with automated client-side updates.

ACHIEVEMENTS

. 50+ Problem solved in LeetCode
. SIH college round qualifiers 2022
. ICPC regional qualifier
. Certified Microsoft Cybersecurity Analyst

Technical Skills

Languages: Python, Java, C++, HTML/CSS, JavaScript, Embedded C, Rust, GoLang, Dart, Bash
Developer Tools: VS Code, Excel, Android Studio, Git, VMWare, AWS, Azure, MongoDB, Postman
Technologies/Frameworks: Linux, Jenkins, GitHub, Flutter, Matplotlib, Seaborn, Numpy, Pandas, React, Express, puppeteer, FFmpeg, OpenCV, Nmap, Metasploit