

# LAKSHIT VERMA

☎ (+91) 8448058867 • ✉ vermalucky2004(at)gmail.com • 🐙 GitHub • 📁 Portfolio • in LinkedIn

## SKILLS

Languages	Python, C/C++, JavaScript, TypeScript, Bash, HTML/CSS, L <sup>A</sup> T <sub>E</sub> X, SQL
Frameworks & Libraries	Angular, FastAPI, Material UI, React, Next.js, PyQt, Node.js, Express.js, Tailwind CSS
Technologies	MongoDB, REST APIs, JSON, XLSForm, Git, Docker, Make/CMake
Cybersecurity	IDA Pro, Ghidra, Wireshark, Volatility, GDB, EnCase, Sleuthkit, FTK Imager, Btrfs
Relevant Coursework	Computer Architecture, FPGA Design, Verilog, Microcontrollers, Embedded Systems
Management & Soft Skills	Leadership, Technical Management, Problem Solving, Communication, Teamwork, Training

## TECHNICAL EXPERIENCE

<b>Student Software Developer, Dhwani RIS</b> <i>Code for GovTech DMP</i>	<i>May 2025 – Present</i> <i>Remote</i>
<ul style="list-style-type: none"><li>Designed and implemented a FastAPI-based backend parser from scratch enabling bulk conversion of Excel-based survey forms through XLSForm to mForm-compatible JSON, supporting forms with up to 400 questions per upload.</li><li>Achieved batch processing speeds of 2.16 seconds for 9 forms (<math>\approx 3,600</math> questions total), with per-question conversion latency averaging 0.15 ms and single-form save times of 240ms.</li><li>Built an Angular frontend from scratch for real-time Excel uploads, live previews, inline error reporting, and batch operations, integrated with REST APIs and MongoDB for seamless form lifecycle management.</li><li>Conducted comprehensive manual and automated QA, validating JSON output against mForm templates and implementing edge-case handling to guarantee reliability and future maintainability.</li><li>Links: 🐙 <a href="#">Source Code</a>, <a href="#">GitHub Issue</a></li></ul>	

<b>Team Member</b> <i>Cryptonite — Major Student Project</i>	<i>January 2024 – Present</i> <i>Manipal, Karnataka, India · On-site</i>
<ul style="list-style-type: none"><li>Extensively participated in 150+ Capture The Flag (CTF) competitions, namely in Forensics and Reverse Engineering.</li><li>Team achieved #2 national ranking in 2025 and #3 national ranking in 2024 on ctftime.org, competing against 10,000+ teams worldwide in prestigious competitions like BSides Bangalore CTF, IIT BHU's Kashi CTF, and NahamCon CTF.</li><li>Designed and developed 2 original CTF challenges for niteCTF 2024: a Minecraft protocol analysis challenge requiring packet parsing and 3D coordinate extraction and an 8-bit VM challenge with NOR gate-based XOR encryption that tested participants' skills in virtual machine analysis and logic gate reverse engineering.</li><li>Lead 20+ Junior Members in the development and execution of the team's OASIS CTF, an intra-college entry-level cybersecurity competition that attracted 499 participants across 218 teams, including challenge creation, infrastructure setup, and real-time technical support during the 24-hour event.</li></ul>	

<b>Core Committee Member</b> <i>Manipal University ACM Chapter — Student Club</i>	<i>November 2023 – October 2024</i> <i>Manipal, Karnataka, India · Hybrid</i>
<ul style="list-style-type: none"><li>Co-organized the “Classified” ML workshop with 100+ participants, handling dataset curation and technical support.</li><li>Curated datasets for Epoch 2024 ML competition with 100+ entries, ensuring data quality across multiple domains.</li></ul>	

## ACHIEVEMENTS

- Awarded **#1 Position** and **1,00,000 INR** in the Smart India Hackathon 2024, under PS 1749.
- Awarded **#1 Position** and **25,000 INR** in the GITxIITB CTF by KLS GIT, Belagavi & IIT Bombay Trust Lab.
- Awarded **#1 Position** and **15,000 INR** in the KJSSE CTF by KJ Somaiya College of Engineering, Mumbai.
- Awarded **#2 Position** and **10,000 INR** in the SoftLaunch Hackathon by the MIT Innovation Centre.
- Finalist of Cython 2024, a national-level hackathon organized by FITT, IIT Delhi.

## PROJECTS

<b>NiteWatch — Codebase Proprietary</b>	<i>Python, PyQt, Btrfs, XFS, EnCase, DFIR, Blue Teaming</i>
<ul style="list-style-type: none"><li>Parses XFS and Btrfs file systems from scratch using no external libraries for full recovery of deleted data and metadata.</li><li>Contains an intuitive PyQt frontend for easy visual analysis and user-friendly file system exploration.</li><li>Integrates AI analysis using OpenAI's APIs for DFIR-relevant insights and automated threat detection.</li></ul>	
<b>YatraGPT — 🐙 Source Code</b>	<i>React, Gemini API, Typescript, NextJS</i>
<ul style="list-style-type: none"><li>An AI travel assistant using Gemini API for trip planning with real-time recommendations.</li><li>Integrated IRCTC API for train ticket search and implemented backtracking algorithm for optimal route finding.</li><li>Deployed on Vercel with TypeScript and Next.js for scalable performance and modern web standards.</li></ul>	

## EDUCATION

<b>Manipal Institute of Technology, Manipal, Karnataka</b> Bachelor of Technology — Electronics Engineering (VLSI Design & Technology)	<i>July 2023 – August 2027</i> Currently in Vth Semester
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