

# LAKSHIT VERMA

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## SKILLS

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

## TECHNICAL EXPERIENCE

<b>Student Software Developer, Dhwani RIS</b>	<i>May 2025 – August 2025</i>
<i>Code for GovTech DMP</i>	<i>Remote</i>
• 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.	
• Built an Angular frontend from scratch for real-time asynchronous Excel uploads, live previews, inline error reporting, and batch operations, integrated with REST APIs and MongoDB for seamless form lifecycle management.	
• Achieved batch processing speeds of 2.16 seconds for 9 forms ( $\approx$ 3,600 questions total), with per-question conversion latency averaging 0.15 ms and single-form save times of 240ms.	
• Created comprehensive automated testing scripts and CI/CD pipelines, validating JSON output against mForm templates and implementing edge-case handling for both frontend and backend.	
• Links: <a href="#">Source Code</a> , <a href="#">GitHub Issue</a>	
<b>Digital Forensics Head</b>	<i>January 2024 – Present</i>
<i>Team Cryptonite — Major Student Project</i>	<i>Manipal, Karnataka, India · On-site</i>
• Extensively participated in 150+ Capture The Flag (CTF) competitions, namely in Forensics and Reverse Engineering.	
• 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.	
• 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.	
• 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 36-hour event.	

<b>Core Committee Member</b>	<i>November 2023 – October 2024</i>
<i>Manipal University ACM Chapter — Student Club</i>	<i>Manipal, Karnataka, India · Hybrid</i>
• Co-organized the "Classified" ML workshop with 100+ participants, handling dataset curation and technical support.	
• Curated datasets for Epoch 2024 ML competition with 100+ entries, ensuring data quality across multiple domains.	

## ACHIEVEMENTS

• Awarded #1 Position and <b>2,00,000 INR</b> in ISEA-ISAP 2026 CTF organized by IIT Madras.	(Team Leader)
• Awarded #1 Position and <b>1,00,000 INR</b> in the Smart India Hackathon 2024, under PS 1749.	
• Awarded #1 Position and <b>25,000 INR</b> in the GITxIITB CTF by KLS GIT, Belagavi & IIT Bombay Trust Lab.	
• Awarded #1 Position and <b>15,000 INR</b> in the KJSSE CTF by KJ Somaiya College of Engineering, Mumbai.	
• Awarded #2 Position and <b>10,000 INR</b> in the SoftLaunch Hackathon by the MAHE Innovation Centre.	(Team Leader)

## PROJECTS

<b>NiteWatch</b>	<i>Python, PyQt, Btrfs, XFS, EnCase, DFIR, Blue Teaming, Operating Systems</i>
• A DFIR application built for Btrfs and XFS filesystems, capable of restoring deleted files along with their complete metadata.	
• Parses filesystem data structures including B+ trees, inode records and superblocks, recovering both deleted and active files.	
• Provides a PyQt-based graphical interface to efficiently navigate, visualize, and interact with reconstructed file system structures.	

<b>Astraeus — <a href="#">Source Code</a></b>	<i>Python, PyTorch, Three.js, XGBoost</i>
• An ensemble ML application pipeline combined with LSTM/GRU networks for high-accuracy trajectory and collision assessment.	
• Provides real-time ingestion and preprocessing of Celestrak TLE data with feature engineering on orbital elements.	
• Implements and end-to-end system delivering 100ms inference latency, continuous risk monitoring, and 3D viz. of orbital dynamics.	

## EDUCATION

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