LAKSHIT VERMA

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SKILLS

Languages	Python, C/C++, JavaScript, TypeScript, Bash, HTML/CSS, LaTeX, 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

Student Software Developer, Dhwani RIS *May 2025 – Present*
Code for GovTech DMP *Remote*

- 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.
- 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.
- 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.
- Conducted comprehensive manual and automated QA, validating JSON output against mForm templates and implementing edge-case handling to guarantee reliability and future maintainability.
- Links: ⭘ **Source Code**, **GitHub Issue**

Team Member *January 2024 – Present*
Cryptonite — Major Student Project *Manipal, Karnataka, India · On-site*

- 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 24-hour event.

Core Committee Member *November 2023 – October 2024*
Manipal University ACM Chapter — Student Club *Manipal, Karnataka, India · Hybrid*

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

PROJECTS

NiteWatch — Codebase Proprietary *Python, PyQT, Btrfs, XFS, EnCase, DFIR, Blue Teaming*

- Parses XFS and Btrfs file systems from scratch using no external libraries for full recovery of deleted data and metadata.
- Contains an intuitive PyQt frontend for easy visual analysis and user-friendly file system exploration.
- Integrates AI analysis using OpenAI's APIs for DFIR-relevant insights and automated threat detection.

YatraGPT — Source Repository ⭘ *React, Gemini API, Typescript, NextJS*

- An AI travel assistant using Gemini API for trip planning with real-time recommendations.
- Integrated IRCTC API for train ticket search and implemented backtracking algorithm for optimal route finding.
- Deployed on Vercel with TypeScript and Next.js for scalable performance and modern web standards.

EDUCATION

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