K S Harshitaa

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Education

Manipal Institute of Technology Bengaluru, Karnataka
Bachelor of Technology in Computer Science & Engineering (Cybersecurity) *2024 – 2028*

- Cumulative GPA: 8.86
- Relevant Coursework: Network Security, AI/ML, Cryptography, Data Structures, Algorithms, DBMS, OS, CN, Forensics, Management.

Technical Skills

Languages: Python, C, Java, JavaScript, HTML, CSS, SQL
Cybersecurity: Kali Linux, Hashcat, Scapy, Wireshark, MITM/SQLi Defense, Network Security
AI/ML & NLP: Keras, TensorFlow, Scikit-learn, Sentence-Transformers, BM25, RAG, NLP, ANN, Pandas, NumPy
Backend & APIs: FastAPI, REST APIs, Pydantic, LLaMA 3 (llama-cpp), Prompt Engineering, ETL Pipelines
Developer Tools: VS Code, Jupyter Notebook, Git, Arduino, Raspberry Pi
Open Source: GirlScript Summer of Code (GSSoC) 2026 – Accepted Contributor, Ambassador

Experience

IT Analyst and Cybersecurity Intern Dec. 2025 – Jan. 2026
Wurth Electronik *Bengaluru, India*

- Engineered an email legitimacy checker system to mitigate phishing attacks, achieving 90.2% detection accuracy.
- Optimized email security protocols, increasing successful delivery rates by 12.1%.
- Designed and presented IT Security Guidelines to 50+ new employees, ensuring 100% GDPR compliance.
- Analyzed request-based warehouse management models, identifying 3 bottlenecks to improve efficiency by 15%.

CoachIn 2026 Mentee / Fellow Feb. 2026 – Present
LinkedIn *Remote, India*

- Selected from a highly competitive national pool of female engineering talent for an exclusive 16-week mentorship program led by LinkedIn engineering leaders.
- Mastering advanced Data Structures, Algorithms (Trees, Graphs, DP), and scalable Backend System Design through rigorous curriculum and 1:1 mentorship.
- Participating in continuous code reviews, virtual hackathons, and technical mock interviews to bridge the gap between academic scripting and production-grade software engineering.

Projects

HackerRank Orchestrate — RAG Support Triage Agent | *Python, BM25, Sentence-Transformers, RAG, NLP* 2026

- Architected a **hallucination-free RAG pipeline** using two-stage retrieval — BM25Okapi for lexical recall followed by `all-MiniLM-L6-v2` semantic reranking — to triage support tickets across HackerRank, Claude, and Visa corpora with zero generative LLM calls.
- Designed **company-sharded BM25 indices** to prevent cross-domain retrieval contamination and a rule-based relevance filter validating intent-keyword overlap before committing to any reply, ensuring fully **auditable, grounded answers**.
- Built a **deterministic pre-flight safety layer** using regex-based detection of prompt injection, fraud keywords, and score manipulation — intercepting high-risk tickets before retrieval with zero stochastic variance.

AI Courtroom Debate Simulator | *Python, FastAPI, LLaMA 3, llama-cpp, Prompt Engineering* Oct. 2025

- Developed a **multi-agent LLM application** using LLaMA 3 8B (GGUF quantised) via `llama-cpp-python`, orchestrating three independent AI personas — Plaintiff, Defence, and Judge — in a structured adversarial debate loop.
- Designed a **FastAPI** backend with CORS middleware and Pydantic schema validation, exposing a production-ready `/courtroom` REST endpoint; applied **prompt engineering** (role-scoped system prompts, temperature tuning, repeat-penalty) to stabilise coherent multi-turn outputs.

Automated Job Aggregator & ATS Filter Engine | *Python, REST APIs, ETL, JSON, CSV* Nov. 2025

- Engineered a multi-source job scraping **ETL pipeline** integrating Greenhouse, Lever, and SmartRecruiters APIs, normalising heterogeneous JSON schemas into a unified data model across modular, provider-specific normaliser classes.
- Built a **rule-based NLP filter engine** with role-keyword matching and automated experience-level inference, reducing irrelevant listings by an estimated **60%** and surfacing entry-level opportunities for targeted candidates.

Network Intrusion Detection System | *Python, Scikit-learn, Scapy, Random Forest, Feature Engineering* Nov. 2025

- Engineered an **ML-based NIDS** detecting DoS, MITM, and Replay attacks with **86% classification accuracy** using a Random Forest model trained on packet-level features extracted via Scapy (flow duration, byte rate, flag distributions).
- Simulated adversarial traffic using **1,000+ SYN packets** to stress-test model robustness, reducing successful simulated attack penetration by **75%** through proactive traffic analysis.

Certifications

Cisco NetAcad: Networking Essentials, Cybersecurity Essentials
DeepLearning.AI: AI For Beginners
IBM SkillsBuild: Data Fundamentals

Leadership

Chapter Lead 2024 – Present
null/OWASP Club *Manipal Institute of Technology*

- Designed and deployed **Tech Solstice CTF 2026** — an 8-challenge security competition spanning Forensics, Cryptography, Networking, and Signal Processing, attracting **200+ participants** nationally.
- Authored all technical challenge specifications: spectrogram frequency-domain steganography, state-machine socket protocols (500-round adversarial stream), Conway's Game of Life OTP encryption, and 100+ layer recursive decompression.
- Orchestrated **10+ workshops** for **500+ students**; managed end-to-end technical event logistics as Chapter Lead.

Vice Chair 2024 – Present
IEEE Women in Engineering *Manipal Institute of Technology*

- Led 12-member committee to execute 4 events, increasing membership by 20%.

Executive Member 2024 – Present
Toastmasters International *Manipal Institute of Technology*

- Organized 10+ speaking events and mentored junior members in public speaking and leadership.

Robotics Team Member 2024 – Present
RADAR Club *Manipal Institute of Technology*

- Coordinated PCB design workshops and developed hardware prototypes.