

Satwik Gupta

Kanpur, Uttar Pradesh

 7837198993 —  satwikgupta05@gmail.com —  github.com/satwikgupta05 —  linkedin.com/in/satwikgupta05

Education

SRM University AP, Amravati

2024 – Present

B.Tech in Computer Science — CGPA: 8.4

Experience

FOSS Community, SRM AP

Aug 2025 – Present

Treasurer

- ▷ Managed budgeting, expense tracking, and financial transparency for technical events and open-source initiatives.
- ▷ Coordinated fund allocation and sponsorship support for workshops, hackathons, and community programs.

Next Tech Lab

Apr 2025 – Present

Associate, Cybersecurity

- ▷ Collaborated in applied cybersecurity research covering blockchain security, cryptography fundamentals, and secure system design.
- ▷ Participated in hands-on security projects and technical discussions focused on defensive system architecture.

Projects

Centralized Malware Analyzer | AWS, ClamAV, YARA

Jan 2025 [GitHub]

- ▷ Engineered a multi-stage malware analysis engine integrating ClamAV and YARA for static signature detection.
- ▷ Designed a heuristic scoring system correlating static signatures with dynamic behavioral metrics to reduce false positives.
- ▷ Implemented an air-gapped VPC sandbox without an Internet Gateway to safely execute malware while capturing C2 attempts via VPC Flow Logs.

WatchTower | Gemini API, Llama, FastAPI

Feb 2026 [GitHub]

- ▷ Built a zero-shot VLM surveillance pipeline detecting complex behaviors via natural language prompts without model retraining.
- ▷ Developed a FastAPI backend to asynchronously process RTSP streams for low-latency real-time inference.
- ▷ Implemented event-driven alerting for anomalous activities such as fights and loitering.

Terminal X | Python, Claude API, Gemini API

April 2026 [GitHub]

- ▷ Architected a multi-model CLI assistant supporting hot-swappable AI backends (Claude and Gemini), with runtime model selection and persistent API key configuration via `~/.config/ai_shell/config.json`.
- ▷ Designed a dual-mode interaction system natural language processing for AI-assisted tasks and direct shell passthrough via `!` prefix with tab completion and command history management.

AI-Powered AWS Smart Terminal | Python, AWS CLI, Gemini API

Nov 2025 [GitHub]

- ▷ Developed an NLP-to-AWS CLI translation layer converting natural language into executable cloud commands.
- ▷ Enabled multi-service orchestration (EC2, S3, Lambda) with sandboxed execution and user confirmation safeguards.
- ▷ Implemented command validation to prevent unsafe privilege escalation and misconfigurations.

Technical Skills

Languages: C, C++, Python, Rust, JavaScript

Web & Mobile: HTML, CSS, React Native

Cloud & DevOps: AWS (EC2, S3, Lambda, VPC), Docker, Jenkins, Github Actions

Security Tools: ClamAV, YARA

Core CS: Data Structures, Algorithms, System Design, Multi-threading

Certifications

C3SA – Certified Cloud Security Associate

AWS Security Fundamentals – Amazon Web Services

Additional Information

Languages: English, Hindi

Interests: Open Source Contribution, Cybersecurity Research, Systems Programming