Izhaan Raza

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Professional Summary

Computer Science undergraduate at VIT-AP University building across backend systems, workflow automation, AI-agent tooling, technical operations, and security-oriented platform work. Experience includes student technical leadership, event technology support, local-first agent workflows, multimodal backend systems, and distributed cyber-competition infrastructure. Strong current interests include systems design, networking diagnostics, CLI tooling, and secure, observable automation.

Education

VIT-AP University — Andhra Pradesh, India
B.Tech in Computer Science and Engineering, AI/ML Specialization — *2024 – Expected 2028*

Experience

Vice President — Current
Open Source Community — *VIT-AP*

- Contribute to multiple student technical projects and help drive engineering activity through the campus open source community.
- Support technical collaboration, project execution, and delivery discipline across student contributors.
- Represent a stronger leadership and technical-operations thread in the current professional profile.

Infrastructure Lead — 2026
RECON — *VIT-AP*

- Led infrastructure work for a 3-day DEFCON-style event and built the King of the Hill Cyber Range Orchestrator in this context.
- Worked on deployment control, service validation, and operational reliability for a live multi-team technical event.
- Strengthened current positioning around systems ownership, backend orchestration, and security-oriented platform work.

Technical Engineer — 2025 – Present
Prayanaa — *VIT-AP*

- Contribute to web platforms and technical assets for events and initiatives.
- Support operational workflows and coordination across technical execution.
- Work on automation-oriented improvements for repeated team processes.

Lead Full-Stack Engineer — 2025 – Present
Vectr — *VIT-AP*

- Build and support technical and design deliverables for events and student initiatives.
- Work across implementation, creative execution, and structured delivery under deadlines.
- Improve internal workflows through tooling and process refinement.

Selected Projects

King of the Hill Orchestrator | *Python, FastAPI, APScheduler, Paramiko, SQLite, Docker, HAProxy* — 2026

- Built a distributed King-of-the-Hill cyber-competition platform with a referee-managed control plane, replicated challenge rounds, and admin and participant dashboards.
- Designed SSH-driven deployment and series rotation workflows across challenge nodes with quorum-based ownership and scoring logic.
- Integrated QA tooling for deployment validation, service checks, and non-destructive vulnerability-proof testing against intentionally weak targets.

Local-First AI Agent Runtime | *Python, WSL, Obsidian, Tailscale* — 2025 – 2026

- Architected a tool-enforced AI agent workflow that separates reasoning from execution and uses structured tool interfaces for real command execution.
- Implemented Linux CLI and Windows PowerShell control paths through WSL-aware tooling and a persistent markdown-based memory layer.
- Designed a local-first memory system using an Obsidian vault with cross-environment state management and secure remote access via Tailscale.

VISU-X Multimodal Robot Backend | *FastAPI, Whisper, Groq, Supabase, pgvector* 2025

- Architected backend pipelines for a multimodal humanoid-assistant system combining audio, vision, memory, and language-model interaction.
- Integrated hybrid memory flows using Supabase and pgvector for short-term context and longer-lived retrieval.
- Designed user-aware interaction flows with facial recognition, contextual recall, and multimodal processing.

University Email Summarization Workflow | *n8n, Notification Pub/Sub, Gemini* 2025

- Built an event-driven workflow to fetch university email, categorize academic content, and generate summaries.
- Implemented prioritization logic to surface important academic mail while suppressing noise and spam.
- Integrated notification workflows for cross-platform summary delivery.

P.E.S.R.S. – EV Slot Booking System | *Flask, MongoDB, Docker* 2024 – 2025

- Designed RESTful backend APIs for EV slot booking, user management, validation, and slot-availability flows.
- Structured MongoDB-backed application logic for scalable booking and request handling.
- Containerized the backend for repeatable local development and deployment.

Pollution Data Collection Rover | *Python, Raspberry Pi, MQ Sensors, GPS* 2024 – 2025

- Developed backend logic for collecting, processing, and storing environmental pollution data from hardware sensors.
- Integrated sensor readings with GPS coordinates to map high-pollution zones.
- Enabled real-time ingestion for monitoring and later analysis.

Achievements

Winner – National Hackathon (OJAS Technical Fest) April 2024
NIT Jamshedpur

- Secured first place in a national-level hackathon.
- Built a Web3-based peer-to-peer social networking application for decentralized communication and user-owned data flows.

Technical Skills

Languages: Python, Java, C, C++, JavaScript, SQL, Rust, HTML/CSS
Frameworks & Platforms: FastAPI, Flask, React, Node.js, n8n, Make, Zapier, LangChain, AutoGen
Datastores: PostgreSQL, MongoDB, Redis, Firebase, Supabase, pgvector, SQLite
Systems & Tools: Git, GitHub, Docker, Docker Compose, Linux, WSL, Postman, cURL, VS Code, Tailscale, HAProxy, Paramiko, APScheduler
Concepts: REST APIs, automation workflows, tool-based LLM execution, memory-layer design, multimodal backend pipelines, distributed control planes, deployment validation, networking diagnostics

Current Technical Directions

Networking diagnostics, systems and CLI tooling, local-first memory architectures, cyber-range design, and security-focused backend infrastructure.