

Goutham Rajeev

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PROFILE SUMMARY

Systems-focused backend engineer and offensive security enthusiast with a strong foundation in performance optimization, secure architecture, and protocol-level development. Experienced in building infrastructure such as VoIP servers and CTF platforms using Rust, Go, and Python. Approaches development with a dual focus: designing scalable systems and ensuring they are resilient against real-world security threats.

EDUCATION

Vellore Institute of Technology
Bachelor of Technology in Computer Science

Aug 2023 – Present
Chennai, India

KEY PROJECTS

Rodan – Custom CTF Platform

Ongoing

GitHub: github.com/intraware/rodan

- Engineered a monolithic CTF platform achieving up to **3× performance improvement** over traditional platforms like CTFd by eliminating inter-service latency and leveraging in-memory operations.
- Implemented batched DB writes and in-app caching, reducing average response latency from **180ms to 45ms** under 1000+ concurrent users.
- Developing **dynamic challenge container orchestration** with sandboxing, TTL enforcement, and pooling to prevent I/O bottlenecks and minimize container startup overhead.
- Developed a custom **Rust-based file sharing service** to securely serve per-team challenge files, reducing the backend load and isolating sensitive data operations.

Toucan Calls – VoIP Server in Golang

GitHub: github.com/parrothacker1/toucan-calls

- Secure communication via ECIES (handshake) and AES-GCM (packet encryption).
- Audio compression via Opus codec; Reed-Solomon for error correction.
- Built over SCTP for low-latency transport.

rs-metasploit – Metasploit RPC Client (Rust)

GitHub: github.com/parrothacker1/rust-metasploit

- Async and blocking interfaces using Reqwest + rmp (MessagePack).
- Supports auth and dynamic module execution with Metasploit.

EXPERIENCE

Red Team Operations & Offensive Security Intern – Cybervahak

Jul 2025 – Present

Remote

- Assisting in security reviews, red teaming simulations, and vulnerability assessments of internal tooling.
- Contributing to internal threat modeling, documentation, and attack surface enumeration.

Cybersecurity Head – Robotics Club

Mar 2025 – Present

VIT Chennai

- Built a Wi-Fi beacon spoofer using ESP32 to simulate rogue networks during club events.
- Co-developing Rodan, a CTF container manager featuring real-time analytics and container pooling.

Technical Core Member – V-NEST

Apr 2025 – Present

VIT Chennai

- Improved dashboard performance by 35% through request batching, caching, and optimized data access patterns.
- Built modular APIs with Swagger docs, implemented fault-tolerant workflows for real-time updates.
- Configured CI/CD pipelines for automatic deployment of release builds to GitHub Container Registry (GHCR).

Cybersecurity Lead – Linux Club

Oct 2024 – Mar 2025

VIT Chennai

- Created and hosted CTF challenges in Reversing, Web, and Crypto; oversaw containerized challenge infra.
- Conducted workshops and mentoring sessions for 300+ students on exploitation techniques and secure design.

Open Source Contributor – GDG Campus

Sep 2023 – Jan 2025

VIT Chennai

- Contributed to backend logic and infra scripts; assisted in setting up development workflows for events.
- Provided support during events, including deployment of web tools and debugging sessions.

Cybersecurity Intern – CyberTeam

Nov 2024 – Mar 2025

Remote

- Identified and disclosed 10+ vulnerabilities through VDP-style assessments across production domains.

TECHNICAL SKILLS

Languages: Rust, Go, Python, C/C++, JavaScript, SQL, Java, HTML/CSS, Bash

Frameworks & Libraries: FastAPI, Flask, Node.js, Actix, fasthttp, Tokio, Spring Boot, gRPC

Tools: Docker, Docker Compose, Kafka, Redis, ElasticSearch, InfluxDB, PostgreSQL, MySQL, SQLite, MongoDB, Git, GitHub Actions, Nginx

Security: Metasploit, SQLMap, Burp Suite, Sleuthkit, ffuf, DirBuster, JWT, PCAP Analysis, Reversing

Other: CI/CD, System Design, Linux Internals, Container Networking, OpenTelemetry