

RITESH SHARMA

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Education

Chandigarh Group of Colleges, Landran

Aug 2023 – Present

Bachelor of Technology in Computer Science (IoT, Cybersecurity, Blockchain)

Mohali, Punjab

Government Model Senior Secondary School 33 -D , Chandigarh

May 12 2023

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Chandigarh

Projects

GRPC-GO | Go Language

May 2026

- Designed and implemented a layer-7 **gRPC load balancer** in Go to efficiently distribute client traffic across multiple backend servers.
- Built dynamic health-checking mechanisms and load-balancing algorithms to ensure seamless failover and high system availability.
- Leveraged Go's native concurrency primitives (Goroutines/Channels) to handle high-throughput asynchronous requests with minimal overhead.

ZOTACK Shell | C Language

March 2025

- Architected and developed a fully functional **Unix-like** command-line shell in C, implementing advanced features like dynamic memory allocation and asynchronous signal handling.
- Engineered robust support for **core shell functionalities**, seamlessly integrating inter-process communication (IPC) via piping, I/O redirection, and complex process control.
- Programmed **standard built-in commands** (cd, history, help, exit) alongside a custom grep utility, showcasing a deep understanding of file system navigation and POSIX system calls.

Tier-2 | C , Python

January 2026

- Designed and implemented a scalable custom virtual **Switch** to seamlessly bridge remote clients into a unified single Ethernet segment.
- Developed dynamic **MAC-based address** learning and efficient packet forwarding algorithms to optimize virtual network traffic flow.
- Constructed a robust network architecture capable of handling complex **packet encapsulation** and routing, demonstrating advanced proficiency in low-level systems programming.

Hardware Cyber-Security Tools

September 2025

- Built and configured a **Pwnagotchi-based** wireless security assessment device for automated Wi-Fi reconnaissance, handshake capture, and cybersecurity research.
- Developed and deployed a **Bjorn** network scanner for automated network discovery, host enumeration, and vulnerability assessment.
- Designed and programmed a custom **BadUSB** device to demonstrate USB attack vectors, endpoint security risks, and defensive detection.
- Configured and customized a **LAN Turtle** platform for network monitoring, remote administration, and penetration testing.

Technical Skills

Languages: Python, C, C++, GO, Java, HTML/CSS, JavaScript, SQL, Flutter

Developer Tools: VS Code, Vim, Git, Docker, Supabase, Android Studio

Technologies/Frameworks: Linux, GitHub, React, React Native, Shadcn, Tailwind

Certifications

- Flutter Development - UDEMY
- The Future of UI/UX - CDAC
- Wireless Ad Hoc and Sensor Networks – NPTEL
- Frontend Development - UDEMY

Co-Curricular

- Active member of Google Developer Group (GDG) Chandigarh, engaging in community-driven tech learning and development initiatives.
- Mentored junior club members through complex technical challenges, fostering a collaborative learning environment and accelerating the onboarding process for new developers.