

EROLLA RISHVIN REDDY

Software Engineer • Full Stack Developer • Cybersecurity Engineer

TypeScript • Python • JavaScript • React • Next.js • Node.js • FastAPI • PostgreSQL • Docker

📞 +91 98487 23235

✉ rishvinreddy@gmail.com

📍 Hyderabad, India

🐙 GitHub

🌐 Portfolio

🔗 LinkedIn

Professional Summary

Computer Science Engineering student specializing in **Blockchain, IoT & Cybersecurity (BIC)** with a strong focus on **Software Engineering, Cybersecurity, Full-Stack Development, Digital Forensics, and IoT Systems**. Experienced in designing and engineering **secure web applications, backend systems, RESTful APIs, forensic tools, blockchain-based platforms, IoT solutions, and workflow automation** using **TypeScript, Python, JavaScript, React, Next.js, Node.js, FastAPI, PostgreSQL, Docker, MQTT, and Web3 technologies**. Founder of **Rishvin Labs** with **40+** **software repositories and engineering projects** spanning cybersecurity, digital forensics, blockchain, IoT, AI security automation, and enterprise applications. Currently gaining enterprise application development experience as a **Pega Platform Intern at Pegasystems** while contributing to engineering projects and innovation, including a **Government of India registered design patent**. Strong foundation in **Data Structures & Algorithms, Database Systems, Computer Networks, Operating Systems, System Design, and Secure Software Development**.

Education

Woxsen University

B.Tech in Computer Science and Engineering

Specialization: Blockchain, IoT & Cybersecurity (BIC)

Hyderabad, India

2024 – 2028

CGPA: **9.01/10**

Technical Skills

Programming Languages: Python, TypeScript, JavaScript, Java, SQL, HTML5, CSS3

Frontend: React, Next.js, Vite, Tailwind CSS, Bootstrap, Responsive Web Design

Backend: Node.js, Express.js, FastAPI, Flask, RESTful APIs, API Integration

Databases: PostgreSQL, MySQL, MongoDB, Database Design, SQL

Cybersecurity & Forensics: Network Security, Web Security, Digital Forensics, Vulnerability Assessment, OWASP, PCAP Analysis, Cryptographic Hashing, Secure Authentication

Blockchain & IoT: Blockchain, Ethereum, Solidity, Web3, IPFS, MQTT, ESP32, IoT Security, Evidence Integrity

AI & Automation: n8n, OpenRouter, Google Gemini API, WhatsApp Cloud API, Workflow Automation, AI API Integration

DevOps & Developer Tools: Git, GitHub, GitHub Actions, Docker, Postman, Linux, Antigravity IDE, Overleaf, Vercel

Core Computer Science: Data Structures & Algorithms, Object-Oriented Programming, Database Management Systems, Computer Networks, Operating Systems, Software Engineering, System Design, Problem Solving

Featured Projects

ChainForensics – Blockchain-Based IoT Forensic Evidence Platform

TypeScript, Node.js, MQTT,

Ethereum, Solidity, IPFS, SHA-256

- Engineered a **blockchain-backed digital forensics platform** for collecting, verifying, and preserving security evidence generated by IoT environments.
- Implemented an evidence pipeline using **MQTT event collection, deterministic JSON serialization, SHA-256 hashing, Ethereum smart contracts, and IPFS** to establish verifiable evidence integrity and chain of custody.
- Designed an investigation architecture for **tamper detection, immutable evidence registration, and forensic timeline reconstruction** across distributed IoT security events.

NetInspect – Browser-Based Network Traffic Analysis & Digital Forensics Workbench

Python,

JavaScript, HTML5, CSS3, Browser APIs

- Built a **local-first network forensics workbench** for browser-based PCAP inspection, protocol analysis, and security investigation without requiring server-side packet processing.
- Implemented **packet inspection, protocol analysis, traffic filtering, search, and investigation workflows** for efficient network security analysis.
- Designed a privacy-focused architecture using **client-side processing and interactive analysis tools** for digital forensic investigations.

AI Security Guardian – AI-Powered Security Operations Platform Python, n8n, PostgreSQL, Docker, OWASP

- Architected an **AI-powered Security Operations Center (SOC)** for attack surface management, vulnerability scanning, threat intelligence, and automated security workflows.
- Implemented **security scanning, deterministic risk scoring, AI-assisted analysis, monitoring, and automated reporting** through workflow-driven security pipelines.
- Designed a containerized architecture using **Docker, PostgreSQL, and n8n** for modular security automation and repeatable threat-analysis workflows.

EcoBin – AI-Powered Smart Waste Management System Python, FastAPI, React, TypeScript, XGBoost, Google OR-Tools

- Developed an **AI-powered IoT waste management system** for container fill-level prediction, overflow risk detection, and intelligent waste collection planning.
- Built predictive backend services using **XGBoost and FastAPI** and integrated them with a React-based operational dashboard.
- Applied **Google OR-Tools** for optimized collection routing, combining machine learning, IoT data, and operations research.

Prism-Transfer – Secure Multi-Modal Offline File Transfer System Python, TypeScript, QR Communication, Peer-to-Peer Networking

- Designed a **secure offline file transfer system** combining optical QR communication and peer-to-peer networking for device-to-device data exchange.
- Engineered a multi-modal architecture focused on **privacy-preserving communication without centralized cloud storage or infrastructure**.
- Applied security-oriented system design principles for **offline connectivity, data integrity, controlled transmission, and resilient data exchange**.

MBOX Viewer – Browser-Native Email Forensics Tool TypeScript, JavaScript, HTML5, CSS3, Browser APIs

- Developed a **zero-backend browser-native digital forensics application** for parsing, visualizing, and analyzing MBOX email archives locally.
- Implemented **email search, filtering, metadata extraction, attachment analysis, and forensic investigation workflows** for large email datasets.
- Designed a privacy-first architecture that keeps sensitive email data **entirely client-side**, eliminating server-side archive processing.

Biometric Voting System – Secure Fingerprint-Based Voting Platform TypeScript, React, Node.js, IoT, Fingerprint Biometrics

- Developing a **biometric voting platform** focused on secure voter authentication using fingerprint-based identity verification and hardware-software integration.
- Upgraded the biometric architecture from an R307 sensor to a **Mantra fingerprint device**, moving toward a more realistic voter authentication workflow.
- Designed the system around **secure voter verification, duplicate-vote prevention, auditability, and reliable biometric device integration**.

Technical Experience

Pega Platform Intern – Pegasystems *Aug 2026 – Present*

- Selected for the **National Internship Program 2026 with SmartBridge** and currently gaining hands-on experience with the **Pega Platform** for enterprise application development.
- Developing practical knowledge of **low-code application development, Business Process Management (BPM), Case Management, workflow automation, and Digital Process Automation (DPA)** using the Pega ecosystem.
- Following structured **Pega Academy** learning pathways and applying platform concepts related to application architecture, business workflows, case lifecycles, and enterprise application development.
- Building professional capability in **enterprise software development, workflow design, problem solving, application lifecycle concepts, and collaborative engineering practices** through the internship program.

Founder & Software Engineer – Rishvin Labs *2025 – Present*

- Founded and lead **Rishvin Labs**, an independent software engineering initiative focused on **cybersecurity, digital forensics, IoT, blockchain, full-stack development, and developer automation**.
- Designed and developed **40+ software repositories and engineering projects**, including security tools, forensic workbenches, IoT platforms, enterprise applications, automation systems, and developer utilities.
- Architect and implement production-oriented systems using **TypeScript, Python, React, Next.js, Node.js, FastAPI, PostgreSQL, Docker, MQTT, REST APIs, and Web3 technologies**.

- Build across the complete software lifecycle, including **system architecture, database design, API development, authentication, security engineering, testing, debugging, deployment, performance optimization, and technical documentation.**
- Maintain an engineering portfolio spanning **digital forensics, network security, IoT security, blockchain evidence preservation, AI security automation, computer vision, conversational commerce, and enterprise software.**

Software Engineering & Research Projects

Academic & Independent Engineering

- Engineered cross-domain systems including **ChainForensics, NetInspect, EcoBin, Prism-Transfer, AI Security Guardian, MBOX Viewer, and biometric security applications**, combining software engineering with cybersecurity, IoT, blockchain, and automation.
- Implemented **full-stack architectures, RESTful APIs, database-driven systems, authentication and authorization, event-driven workflows, AI integrations, cryptographic verification, and responsive web interfaces.**
- Applied **Object-Oriented Programming, Data Structures & Algorithms, system design, database design, computer networking, operating systems, secure software development, testing, and debugging** across academic and independent projects.
- Explored practical security engineering through **network traffic analysis, digital forensics, vulnerability assessment, biometric authentication, cryptographic hashing, IoT security, and blockchain-based evidence integrity.**

Patent & Innovation

Government of India Registered Design Patent – IoT Connectivity Device *Co-Inventor — Design No: 470097-001*

- Co-inventor of a **Government of India registered design patent** for an IoT connectivity device, demonstrating applied innovation in **Internet of Things and connected-device engineering.**
- Contributed to the design and development of an **IoT connectivity solution** addressing device communication, connectivity, and integration within connected infrastructure.
- Recognized through **Design Registration No. 470097-001**, demonstrating experience in translating an engineering concept into a formally registered intellectual property asset.

Certifications

Career Essentials in GitHub Professional Certificate – GitHub & LinkedIn Learning

Practical GitHub Actions – LinkedIn Learning

Practical GitHub Code Search – LinkedIn Learning

Practical GitHub Project Management and Collaboration – LinkedIn Learning

Introduction to Cyber Attacks – New York University (Coursera)

Programming for Everybody (Getting Started with Python) – University of Michigan (Coursera)

Data Structures Using Python: An Introduction – Coursera

The Arduino Platform and C Programming – University of California, Irvine (Coursera)

Interfacing with the Arduino – University of California, Irvine (Coursera)

Object-Oriented Design – University of Alberta (Coursera)

Java Programming – Coursera

Quantum Computing for Everyone – Coursera

Nanotechnology and Nanosensors, Part 1 – Technion (Coursera)

Write Professional Emails in English – Georgia Institute of Technology (Coursera)