PRINCE SINHA

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EDUCATION

National Institute Of Technology Karnataka, Surathkal *2018-2022*

B.Tech Major in Electronics and Communication Engineering . **CGPA: 8.85**

(With **Minor in Computer Science**) . **CGPA: 9.20**

Relevant Courses: Data Structures and Algorithms, Operating System, Object Oriented Programming, System Design.

Language: C, C++, Linux, Java, React JS, Spring Boot, Shell Script, Perl, MongoDB, SQL.

AI Tools: Copilot, Windsurf, MCP servers, Troubleshoot analyzer, ChatGPT

WORK EXPERIENCE

Software Engineer II, Cisco System, *Bengaluru* Oct 2023 - present

– Developed a real-time upgrade workaround system with interactive sessions between FMC and FTD using REST APIs. An **internal FTD microservice detects issues and auto-suggests workarounds** for the failures.

– Engineered an optimized upgrade mechanism using the SquashFS file system, achieving an **80% reduction in space usage and a 75% improvement in upgrade time** by adopting a new install-based approach.

– Worked extensively on integrating core networking protocols including **SSH, DNS, DNSSEC, DHCP, SCP, and SFTP**, enabling secure data transfer, authenticated name resolution, while **reducing application latency.**

– Implemented a **centralised logging system** using socket programming to collect, parse, and process real-time logs from LINA and other services with scalable microservices architecture.

– Built **microservices** for secure package upload, verification, SFTunnel-based push, pre-check validations, seamless upgrades with rollback/revert support, and real-time status monitoring. Integrated **telemetry microservice** to generate upgrade reports.

Software Engineer I, Cisco System, *Bengaluru* Aug 2022 - Sept 2023

– Designed a **hitless upgrade framework** to ensure zero traffic disruption during upgrades by designing and implementing High Availability (HA) upgrade mechanisms.

– Revolutionised the FTD patch upgrade process by enabling **direct patch installation**, bypassing intermediate MR upgrades, resulting in a **40% reduction** in upgrade and revert time.

Technical Undergraduate Intern, Cisco System, *Bengaluru* May 2021 - July 2021

– Automated **dynamic scaling of Web Security Appliance (WSA) instances on AWS** based on real-time load and traffic metrics. **Built a CLI** to aggregate and present data from multiple appliances using REST APIs.

PROJECTS

NetSec ORBIT Dec 2025

– Built a **Windsurf, VS Code, Codex MCP-based system extension** to auto-triage bugs via CDET MCP, identify impacted branches, and perform system-level root cause analysis.

– **Automated CI/CD execution**, including building changes, private package validation, and auto-generation of pull requests.

– Integrated real-time Webex notifications and workflow state tracking, significantly **reducing bug-to-fix turnaround time**.

Auto Bug Classifier 2025

– Designed an intelligent tool with **MCP servers integrated to CDET and Confluence**, enabling automatic bug detail retrieval and correlation with the codebase for root cause analysis, while leveraging the Autopsy server for efficient **core file debugging**.

– Tool automatically attached root cause details, and routing issues to the right team, reducing bug **turnaround time by 50%**.

Encrypted Service Link

– Developed a secure web application using **Node.js, React.js, Python, and sockets**, leveraging **OOPs principles** to enhance modularity, maintainability, and scalability.

– Incorporated **steganography** for data hiding and **SHA-256** for secure password encryption.

– Implemented the Diffie-Hellman algorithm for secure key exchange, paired with 256-bit encryption for secure messaging

ACHIEVEMENTS

– **Published Research paper** on Evolution of LiverNet 2.x for lightweight CNN model. LiverNet 2.x

– Secured **third position** in a company-wide hackathon it **reduced 60% TAC cases** by integrating in product.

– Received **Engineering Pioneers in Innovation and Creativity (EPIC)** award for space optimization.

– Expert in Codeforces **current rating 1761**, 260+ questions solved in LeetCode Codeforces LeetCode

– Hold a **6-star rating** in Problem Solving on Hackerrank. princesinha24au1