

# Rahul B

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## PROJECTS

### AI-CLI-Agent | Python, Ollama, ChromaDB

- Engineered a modular CLI orchestration layer for local LLMs, integrating custom tools for autonomous web search and secure system command execution.
- Implemented Retrieval-Augmented Generation (RAG) using ChromaDB and sentence-transformers to efficiently index and query large documents and local Obsidian vaults.

### libdeck39 C Library | C, Git, GitHub CLI

- Engineered a C library for 6-bit card encoding, managing the full development lifecycle from initial architecture through to package finalization.
- Successfully deployed the completed package and managed version control as an open-source repository via Git and GitHub.

### SDN Traffic Monitor | Python, Ryu Controller, OpenFlow 1.3, Mininet

- Engineered a centralized SDN controller via Ryu and Mininet to automate packet inspection and flow table manipulation.
- Implemented dynamic OpenFlow 1.3 match-action rules for firewall access control, traffic routing, and performance logging.

## EDUCATIONAL BACKGROUND

### PES University, Bengaluru

Bachelor's Degree in Computer Science and Engineering (B.Tech)

2028

CGPA: 7.6125 (As of sem-4)

### Vidya Niketan School Hebbal, Bengaluru

High School (1<sup>st</sup> - 10<sup>th</sup>)

2022

## PROFESSIONAL SUMMARY

Dedicated Computer Science major with practical experience spanning software development, computer networking, and mathematical modeling. Proven ability to design distributed architectures, benchmark efficient algorithms, and manage full-lifecycle open-source projects. Eager to apply proficiency in C, Python, and Assembly to a summer software engineering internship.

## SKILLS & PROFICIENCIES

- Programming Languages: C, Python, Assembly (ARM7TDMI, RISC-V), C++, Bash, JavaScript, MySQL
- Systems & Developer Tools: Linux (Fedora, Ubuntu), Git, GitHub CLI, GNOME & GNU, Antigravity.
- Core Competencies: Distributed Systems, Socket Programming, Memory Management, Algorithm Optimization (RLE), Low-Level Architecture, Competitive Programming.
- Web Technologies: Next.js, React.js, MongoDB, Express.js
- Active on Leetcode.
- Spoken Languages: Fluent in English, Hindi, and Kannada