

# Rahul Gopathi

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## EDUCATION

Indian Institute of Technology, Jodhpur

Jodhpur, India

Bachelor of Technology - **Artificial Intelligence & Data Science**. CGPA: 6.81/10

Dec 2020 - May 2024

Courses: Data Structures and Algorithms, Deep Learning, DLOps, Dependable AI, Operating Systems, Database Management Systems

## SKILLS SUMMARY

- **Languages:** Python, Golang, C++, JavaScript, Typescript, HTML, CSS, Shell, SQL
- **Development:** React JS, Vue JS, Django, Node.js, Fast API, PostgreSQL, MongoDB, Redis, Firebase
- **Cloud Computing:** Kubernetes, Docker, AWS, Ansible, CI/CD, Nginx, OpenStack, JuJu

## EXPERIENCE

- **5Point AI Labs** Bengaluru  
Software Development Engineer June 2024 - Present
  - **Full-Stack Solution Design:** Spearheaded the design and implementation of end-to-end full-stack solutions using modern technologies like **Next.js**, **TypeScript**, and **FastAPI**, delivering seamless user experiences and efficient, maintainable system operations.
  - **AI Agent Development:** Engineered sophisticated AI agents leveraging **LangChain** and **AutoGen**, enabling dynamic and efficient text-to-video transformations tailored to diverse user requirements.
  - **Performance Optimization:** Strategically optimized backend performance with **MongoDB** and **Redis**, reducing query times, enhancing data retrieval efficiency, and ensuring robust performance for high-traffic and data-intensive applications.
  - **Event-Driven Architecture:** Implemented event-driven architecture by leveraging **Redis Pub/Sub**, facilitating real-time communication and enabling seamless integration of scalable microservices.
  - **Scalability and Deployment:** Utilized **Docker** to containerize applications and streamline deployment processes across diverse environments, ensuring scalability, reliability, and minimal downtime during rollouts.
  - **Impact:** Successfully guided a cutting-edge AI-driven product from concept to production, delivering an innovative, scalable solution that redefined video creation workflows and addressed critical user pain points.
- **NTT Technocross** Yokohama, Japan (Onsite)  
Cloud Engineer Intern Jun 2023 - July 2023
  - **OpenStack Magnum Deployment:** Successfully researched, configured, and deployed **OpenStack Magnum** to a test environment, making **Kubernetes** available as a service to streamline container orchestration and management.
  - **High Availability (HA) Mode Deployment:** Deployed the system in **High Availability (HA)** mode, ensuring fault tolerance and reliability for critical operations. Developed and implemented **Ansible playbooks** to automate deployment processes, reducing manual effort and improving reproducibility.
  - **Process Documentation:** Documented the entire deployment process, creating a comprehensive guide for future implementations and ensuring clarity for team members and stakeholders.
  - **Recognition and PPO Offer:** Received a **Pre-Placement Offer (PPO)** for exceptional performance during the internship, demonstrating a strong ability to deliver impactful solutions and exceed expectations.
- **WiseOps** Remote  
Software Development Intern Nov 2023 - Dec 2023
  - **AWS Resource Optimization:** Developed **JavaScript** automation scripts to identify and remove unused **AWS resources**, including **EC2 instances** and **EBS volumes**, enhancing cloud resource management and efficiency.
  - **Cost-Saving Measures:** Automated cost-reduction strategies by implementing features such as disabling **fast snapshot restore** and transitioning storage volumes from **GP2** to **GP3**, achieving significant cost savings of up to **30%**.
  - **Impact:** Enabled substantial cost optimization in cloud expenditures, demonstrating expertise in leveraging automation to drive efficiency and reduce operational overhead.

## PROJECTS

- **QAWS Price Database (Database Optimization, REST APIs):** Developed a database system to query AWS metadata and pricing across regions with execution times under 50ms using optimized indexing. Designed REST API endpoints for efficient data retrieval and performance evaluation. **Tech:** FastAPI, MySQL, AWS Bulk Price API (Sep 2023)
- **QIITJ Container as a Service (CaaS) (Containerization, Kubernetes, Web Development):** Created a CaaS interface with Kubernetes APIs to simplify container deployment on bare metal, enabling direct deployment from GitHub, GitLab and advanced container management for developers. **Tech:** Kubernetes, React, Django, REST APIs (Jan 2023)

## ACHIEVEMENTS

- |      |                      |   |
|------|----------------------|---|
| 2022 | <b>DD Robocon</b>    | Scored <b>100%</b> with a team in Level 1 at national level           |
| 2021 | <b>INTER IIT 9.0</b> | Secured <b>5th</b> position with a team at Inter-IIT Tech Meet 9.0    |
| 2020 | <b>JEE'20</b>        | Among top <b>0.5%</b> percentile of 1 million Applicants in JEE- 2020 |

## POSITION OF RESPONSIBILITY

- |      |                            |                                |
|------|----------------------------|--------------------------------|
| 2023 | <b>Festival Chief</b>      | Prometeo Techfest, IIT Jodhpur |
| 2022 | <b>Student Coordinator</b> | Devlup Labs, IIT Jodhpur       |