

# CHIRAG H

Bengaluru, Karnataka, India

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## Education

### RV College of Engineering (RVCE)

Bengaluru, Karnataka

*Bachelor of Engineering in Computer Science*

*July 2024 – Present*

- Current SGPA: 7.52/10.0
- Relevant Coursework: Data Structures, Algorithms, Computer Networks, Database Management Systems

### Sri Jayachamarajendra (Govt.) Polytechnic (SJP)

Bengaluru, Karnataka

*Diploma in Mechatronics Engineering*

*2021 – 2024 (Completed)*

- CGPA: 9.64/10.0
- Consistent academic excellence with SGPA ranging from 9.11 to 10.0 across all semesters

## Experience

### Quality Control Engineer Intern

January 2024 – April 2024

*Globe Tech Fortune Industries Pvt. Ltd.*

*Bengaluru, Karnataka*

- Demonstrated exceptional learning agility by quickly mastering precision testing protocol and quality control procedures
- Consistently exceeded task completion expectations while maintaining high accuracy standards in all assigned projects
- Exhibited strong work ethic and proactive approach by actively seeking additional responsibilities and challenges
- Developed keen attention to detail and precision-focused mindset through hands-on quality assurance experience
- Collaborated effectively with cross-functional teams to ensure adherence to quality standards and delivery timelines

## Technical Projects

### V.E.C.T.O.R - Real-Time Fraud Detection System | *Redis, MongoDB, JavaScript, Python*

2025

- Developed enterprise-grade fraud detection system with real-time monitoring capabilities
- Implemented web dashboard for suspicious activity visualization and reporting
- Project details are confidential due to ongoing patent review process

### AI-Driven Inventory Intelligence and Fulfillment System | *Python, Machine Learning, API Integration*

2025

- Developed comprehensive grocery inventory management system using ML models for demand forecasting and customer behavior analysis
- Implemented predictive assistant functionality that analyzes meal plans and festivals to trigger proactive restocking orders
- Integrated recipe APIs with personal inventory tracking to enable automated grocery procurement and waste reduction
- Built robust store-side intelligence engine for optimizing inventory levels, minimizing wastage, and improving stock turnover

### AI Pathfinding Benchmarking + Game Simulation | *Python, PyGame, NumPy*

2025

- Built a simulation platform benchmarking 35+ pathfinding algorithms (A\*, Dijkstra, Flow Field, ACO, PSO, etc.) across fog-of-war, dynamic obstacles, and agent visibility constraints
- Analyzed algorithm performance using success rates, memory usage, and decision latency to identify optimal strategies for real-time navigation under uncertainty
- Designed and developed *PROJECT RESCUE RUN*, a real-time PyGame engine testing A\* and Flow Field in multi-agent gameplay with evolving enemy AI (DFS → BFS → A\*)
- Validated Flow Field's superiority for RTS-style coordination via live in-game toggling, showcasing its efficiency and adaptability in complex terrain

### Computer Vision Gesture Recognition Home Automation | *Python, OpenCV, Arduino*

2024

- Engineered contactless home automation system using computer vision and gesture recognition algorithms
- Implemented real-time gesture-to-command interface using OpenCV for seamless user interaction
- Integrated Arduino microcontroller for controlling household appliances through gesture-based commands
- Achieved high accuracy in gesture detection and response time optimization for practical home automation

### Hospital Resource Management System | *C Programming, Data Structures, Algorithm Design*

2024

- Designed efficient emergency triage system using priority queues and dynamic resource allocation algorithms
- Implemented intelligent patient-doctor mapping based on medical specialization and urgency levels
- Optimized resource utilization through real-time tracking and automated assignment protocols
- Developed robust data structures to handle concurrent patient processing and doctor availability

Technical Skills

**Programming Languages:** Python, C, R (Basics), JavaScript  
**Technologies & Frameworks:** OpenCV, PyGame, Redis, MongoDB, Arduino, Machine Learning  
**Design & Manufacturing:** CATIA, Blender, FDM 3D Printing, LAM 3D Printing, Post-processing  
**Tools & Platforms:** Git, GitHub, Cloudflare, Linux, Windows  
**Databases:** MongoDB, SQL  
**Specializations:** Computer Vision, Algorithm Design, Quality Control, Additive Manufacturing

Leadership & Extracurricular Activities

**Class Representative** 2021 – 2024  
*Diploma Program* 3 Consecutive Years

- Elected as Class Representative for 3 consecutive years, demonstrating exceptional leadership and peer trust
- Successfully managed class coordination, academic planning, and student-faculty communication
- Demonstrated strong interpersonal skills and ability to represent student interests effectively

**Team Leader** 2024 – Present  
*Multiple Technical Projects* Voluntary Leadership Role

- Voluntarily assumed leadership roles in all team-based technical projects, showcasing natural leadership abilities
- Excelled in team coordination, task delegation, and project timeline management
- Demonstrated exceptional communication and persuasion skills with faculty and stakeholders

**Active Member** April 2024 – Present  
*Student Organizations* Multiple Verticals

- Studomatrix Organization: Contributing member in technical and organizational activities since April 2024
- DHI Club (Operations Vertical): Active participant in operational planning and execution since 2025
- GDG RVCE Chapter (Machine Learning Vertical): Member since May 2025, engaged in ML workshops and technical discussions

**Volunteer Leader** 2023  
*Rotary India Literacy Mission (RILM)* Project Sahakarita v2.0

- Recognized by RILM for outstanding contribution in Hardware and Software Installation during computer center setup
- Led team initiative for Rotary-Infosys Foundation-Government of Karnataka collaboration project
- Contributed to Department of Technical Education’s digital infrastructure development for educational institutions
- Demonstrated technical expertise and community service commitment through hands-on system deployment

Key Achievements

**Academic Excellence:** Maintained CGPA of 9.64/10.0 in Diploma with consistent high performance across all semesters  
**Patent Application:** Developed V.E.C.T.O.R fraud detection system currently under patent review, demonstrating innovative technical capability  
**Leadership Recognition:** Elected Class Representative for 3 consecutive years, showcasing sustained leadership capability  
**Official Recognition:** Received appreciation from Rotary India Literacy Mission for outstanding contribution to Project Sahakarita v2.0  
**Community Impact:** Led successful community service initiative benefiting multiple educational institutions  
**Industry Readiness:** Completed professional internship with exceptional performance and positive feedback