

RISHABH ARVIND KARPE

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OBJECTIVE

Aspiring software/IoT engineer with hands-on experience through internships and hackathons. Seeking a full-time role where I can leverage skills in embedded systems, computer vision, and cloud-integrated applications to build impactful solutions.

EDUCATION

Bachelor of Technology, Electronics & Computer Engineering Present

KJ Somaiya College of Engineering, Mumbai, India

Relevant Coursework: Embedded Systems, Computer Vision, Data Structures & Algorithms, Networks, IoT Architectures

SKILLS

Technical Skills	Python, C, C++, Java, JavaScript; OpenCV, YOLOv4; Unity; MongoDB; Firebase; Raspberry Pi; Arduino; MQTT/HTTP; PLC, HMI; Git & GitHub; Linux command line; sensor interfacing (DHT11, soil moisture, motor driver control)
Soft Skills	Problem-solving, critical thinking, creativity, teamwork, verbal & written communication, self-directed learning, attention to detail, documentation practices, adaptability
time management,	
Tools & Platforms	Visual Studio Code, RealVNC (for Raspberry Pi), TIA portal, AutoCAD 360, VMware MS Office 365 (reports & presentations)

EXPERIENCE

Intern May 2024 – June 2024
Improsyst Pune, India

- Learnt industrial automation fundamentals and best practices.
- Built an energy-saving prototype by integrating sensor data and control logic to automate electrical devices.
- Integrated sensors and Raspberry Pi to monitor usage and optimize power consumption.
- Documented technical findings and presented outcomes to the team.

Intern Jan 2024
KJ Somaiya College of Engineering Mumbai, India

- Developed a basic communication system for paralyzed patients using Raspberry Pi and OpenCV.
- Used YOLO-based eye-movement tracking to interpret gaze directions mapped to predefined commands.
- Mapped each eye movement to voice outputs (e.g., “Need help,” “Bring me water”) via a speaker module.
- Tested prototype with sample scenarios and documented setup and user guidelines.

Creative Head Jun 2024 – Present
Ecesa Council Mumbai, India

- Led a small team to design and produce promotional reels, posters, and digital content for technical events.
- Enhanced event outreach by coordinating campaigns across social media and college channels.
- Collaborated with event organizers to understand requirements and delivered assets on schedule.
- Maintained logs of design iterations, feedback, and finalized materials, ensuring consistency and quality.

PROJECTS

Smart Healthcare System

Jan 2025

Built a web-based DNA sequencing visualization platform by designing an intuitive UI and integrating real-time data analysis using Firebase and JavaScript. Improved user engagement metrics by ~70% during hackathon testing.

Tech: HTML5, CSS3, JavaScript, Firebase

Transferable Skills: Problem-solving, creativity, teamwork, attention to detail

IoT-Based Farm Automation System

Jan 2025 – Feb 2025

Automated irrigation control by integrating DHT11 and soil moisture sensors with Raspberry Pi and Firebase for real-time monitoring and control. Optimized water usage through threshold-based triggers and scheduled reports.

Tech: Raspberry Pi, Arduino, Python, Firebase, DHT11, Soil Moisture Sensor, Motor Driver

Transferable Skills: Critical thinking, time management, problem-solving, innovation

Basic Communication for Paralyzed Patients

Jan 2024

Built an assistive communication prototype by tracking eye movements with YOLOv4 on Raspberry Pi and mapping gaze to voice commands via a speaker. Enabled hands-free requests like “Need help” or “Bring water.”

Tech: Raspberry Pi, Python, OpenCV, YOLOv4

Transferable Skills: Innovation, empathy-driven design, IT/Design fluency, verbal communication

Home Electricity Saving System

May 2024 – Jun 2024

Built a power-saving solution by detecting room occupancy with YOLOv4 and OpenCV on Raspberry Pi, automatically toggling lights/fans. Demonstrated potential to reduce wasteful energy use.

Tech: Python, OpenCV, YOLOv4, Raspberry Pi

Transferable Skills: Numeracy, attention to detail, problem-solving, commercial awareness

Groundwater Conservation Game

Sep 2024 – Present

Developed an immersive Unity game for SIH 2024, using C# and MongoDB backend to teach water conservation concepts. Finalist in Smart India Hackathon.

Tech: Unity, C#, MongoDB

Transferable Skills: Creativity, personal motivation, IT/Design fluency, teamwork

Additional Side Projects

Water Potability Predictor: Exploratory ML model to classify water safety using dataset features; practiced data cleaning and basic classification.

Blockchain-based Voting Prototype: Developed frontend interface for voting flows, exploring decentralized concepts.

Tech: Python/ML libraries, JavaScript frameworks, Web3 basics

Transferable Skills: Research & analysis, teamwork, written communication

EXTRA-CURRICULAR ACTIVITIES

- Designed and shared promotional content (reels, posters) for college technical events, boosting awareness and participation.
- Regularly explore tech blogs, tutorials, and hands-on experiments; occasionally help peers troubleshoot IoT/CV issues.
- Participate in hackathons and coding challenges to refine problem-solving and rapid prototyping skills.
- Competed in 5+ hackathons, securing finalist positions in all of them and consistently finishing in the top five
- Won PAN IIT Hackathon: Out of 17,000+ registrations, we made it to the top 72 finalist teams and emerged as winners

LEADERSHIP

- As Creative Head at Ecesa Council, led content design initiatives and coordinated with multiple stakeholders to deliver on tight timelines.
- Co-led project teams (4–5 members) in hackathons, delegating tasks, integrating modules, and presenting demos under time constraints.
- Mentor juniors informally in IoT and computer vision projects, guiding sensor interfacing and code debugging.