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RIKIN PAREKH

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PROFILE

Embedded systems and robotics engineer with experience in digital systems, microcontrollers, and low-level programming. Designed processor-level architectures at IIT Gandhinagar and built end-to-end embedded and IoT systems using STM32, ESP, and Raspberry Pi platforms. Awarded ₹3.2L+ in government grants and recognized as a national hackathon finalist for developing scalable, high-impact solutions.

EDUCATION

Bachelor of Technology in Information and Communication Technology,
Pandit Deendayal Energy University — Expected 2027

- **CGPA:** 9.11/10.0 [upto 4th Semester]
- **Coursework:** Digital Signal Processing and Communication, Data Structures and Algorithm, Computer Organisation and Design, Analog Circuit Design, Database Management System, 3D Modeling

HSC - 12th Grade, Best Higher Secondary School — 2023

EXPERIENCE

Electronics and Embedded Systems Engineer Intern,
Center for Creative Learning, IIT Gandhinagar — July 2025 – Present

- Designed and built advanced electronics and digital-systems prototypes under Prof. Manish Jain, including a fully functional 8-bit breadboard computer; wrote low-level AVR assembly and custom driver code for ATmega328, display modules, and control logic as part of the India Semiconductor Mission.
- Demonstrated projects to national dignitaries such as Hon. Shri S. Somnath, Union Ministers Hon. Shri Dharmendra Pradhan & Hon. Shri Ashwini Vaishnaw, and senior officials from NCERT, CBSE, NIC, and MoHA.

Embedded Systems Engineer Intern,
STEMbotix — May 2025 – June 2025

- Engineered a production-ready quadruped robot and an interactive STEM-focused electronic game system, handling embedded firmware, system logic, and hardware integration.
- Worked across multiple microcontroller platforms—including STM32—to develop firmware, interface peripherals, and support system functionality.

SKILLS

Programming Languages	Python, C, Embedded C, Assembly, MATLAB, Java, JavaScript, SQL
Microcontrollers and Platforms	AVR (Arduino), ESP32/ESP8266, ARM Cortex-M (STM32), Raspberry Pi
Frameworks and Tools	Microchip Studio, OpenCV, Scikit-learn, Django, Flask, Rest APIs, Solid Works, UiPath, Datamatics TruBot, Git, Numpy, Pandas, Linux

PROJECTS

Print&Go – Smart Printing Kiosk — 2025 - Present
Received ₹2.5L grant under the Government of Gujarat's Student Startup & Innovation Policy (SSIP).

- Designed a 24×7 self-service document-printing vending machine with peer-to-peer encryption, secure file upload, and automated payment/printing workflow.

SegReClaim – Incentive-Based Waste Collection System 2025 - Present

Received ₹70k grant under the Government of Gujarat's Student Startup & Innovation Policy (SSIP).

- Built a reverse-vending IoT system that automatically identifies, segregates, and rewards recyclable waste deposits, promoting sustainable disposal practices.

Underwater ROV 2024

Cleared Level I of Robofest and was awarded ₹50,000 funding for continued development.

- Designed a remotely operated underwater vehicle for structural inspection of submerged infrastructure, integrating BLDC motors with a Raspberry Pi for precise real-time maneuvering; cleared Level I of Robofest and received ₹50,000 for further development.

Robotic Process Automation 2024

Reached the finals of the Datamatics Hackathon at IIT Bombay

- Developed an RPA solution using Python and Datamatics automation frameworks to streamline data extraction and processing; selected as a finalist at IIT Bombay.

Smart Mirror 2023

Showcased at National Children's Science Congress (NCSC) 2023

- Developed a Raspberry Pi–powered smart mirror displaying daily routines, calendars, news, and media controls using a two-way reflective film and modular UI.

ACHIEVEMENTS

- **Top 5 Finalist – Nirman 1.0, PDEU SOM & IIC** Apr, 2025
  Secured 5th position in a university-level innovation and entrepreneurship competition. Received a cash prize of ₹8000. Project details are confidential due to ongoing development potential.
- **Two Time Finalist - Datamatics Hackathon, IIT Bombay** Dec, 2024
  Dec, 2023
  Developed an RPA solution to automate business processes, enhancing efficiency and accuracy.
- **Winner - Round 1, Robofest (Underwater ROV Category)** Aug, 2024
  Led a team in designing and prototyping a remotely operated underwater vehicle for structural analysis of submerged infrastructure. Secured ₹50,000 in funding.
- **Top 15 (Regional) - NASA Space Apps Challenge** Oct, 2023
  Ranked Top 15 regionally. Showcasing innovative problem-solving and technical expertise.

CO-CURRICULAR EXPERIENCE

- **Cretus Robotics Club - Technical Lead**
  Engaged in hands-on robotics workshops, hackathons, and technical competitions, expanding expertise in embedded systems, automation, and AI.
- **Atal Tinkering Lab - Mentor & Workshop Conductor**
  Supervised and organized STEM workshops for students, promoting innovation in robotics and IoT.

CERTIFICATIONS & LEARNING

- **Silver Elite Certification – Drone Systems & Control (IISc Bangalore, Score: 83%)** 2025
- **IBM SkillsBuild: Building AI Solutions Using Advanced Algorithms and Open Source Frameworks** 2025
- **Intel AI Bootcamp** 2021