

Ridham Patel

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EDUCATION

LDRP Institute of Technology and Research June 2022 - Present
Bachelor of Engineering - Information Technology; CGPA: 7.70 Gandhinagar
Coursework: Operating Systems, Data Structures, Analysis Of Algorithms, Artificial Intelligence, Machine Learning, Computer Networking, Database Management System

SKILLS SUMMARY

Languages	JavaScript, TypeScript, HTML, CSS, Python, SQL, NoSQL, Java, PHP
Frameworks / Libraries	React, Next.js, Node.js, Express, Django, Flask, Tailwind CSS, Prisma, Mongoose
Tools & Technologies	Docker, Kubernetes, Git, Github, Postman, Jest, Cypress, Playwright, Webpack, Redis
Cloud & DevOps	AWS (EC2, S3, Lambda), Vercel, GitHub Actions, CI/CD Pipelines
Databases	MongoDB, PostgreSQL, MySQL, SQLite, Firebase
Soft Skills	Communication, Leadership, Time Management, Problem Solving, Collaboration

EXPERIENCE

Software Development Intern Aug 2024 - Nov 2024
Institute for Plasma Research Gandhinagar

- Collaborated closely with a scientist of IPR to understand requirements and deliver a solution that enhanced the learning and assessment process for numerous students.
- Developed and deployed a full-stack, interactive online quiz platform for school-level students, facilitating the migration of traditional offline assessments to a modern digital environment.
- Engineered a dynamic and responsive user interface using Next.js, ensuring an intuitive and engaging experience for students taking quizzes.
- Built a robust Node.js backend with TypeScript, responsible for quiz logic, user authentication, and data management.
- Implemented features for dynamic result & certificate generation using React-PDF and automated delivery via Node-mailer, significantly improving efficiency and instant feedback for students.

PROJECTS

Face-Swap-Based Deepfake Detection Platform | SIH'24 Finalist - [Link](#) Sept 2024 - Dec 2024

- Implemented a full-stack deepfake detection platform for the National Technical Research Organization (NTRO) as a Smart India Hackathon 2024 finalist.
- Developed a responsive and intuitive user interface using Next.js with SSR and Tailwind CSS for seamless interaction and data visualization, including Highcharts & Chart.js for presenting detection metrics.
- Built robust backend APIs with Node.js and TypeScript, leveraging Prisma ORM for efficient data management with a PostgreSQL database.
- Deployed the entire application on Vercel for the frontend and managed backend services on AWS EC2, ensuring scalability and high availability.

Student Dropout Analysis Platform for Schools | SIH'23 Finalist - [Link](#) Sept 2023 - Dec 2023

- Developed a comprehensive full-stack platform for the Education Department as a Smart India Hackathon 2023 finalist, designed for school-level student dropout analysis.
- Designed and implemented an interactive React.js frontend with Tailwind CSS for a modern and adaptable user experience, incorporating Highcharts for predictive analytics visualization.
- Established a scalable Node.js backend with Express.js and TypeScript, utilizing Mongoose for ODM interactions with a MongoDB database to manage student and prediction data.
- Managed the deployment process, with the frontend hosted on Vercel and the backend services running on AWS EC2, ensuring reliable data processing and access.

Customer Grievance Portal for One Nation One Challan | SSIP'23 Winner - [Link](#) July 2023 - Sep 2023

- Developed a citizen grievance platform for the One Nation One Challan Policy, leveraging React.js (frontend) and Node.js (backend), securing 3rd place in the Security sector at Gujarat Hackathon SSIP 2023.

M. M. Patel Students Research Project Cell - KSV Website | [Link](#) Sept 2024 - Nov 2024

- Engineered a comprehensive research-oriented web platform for students, collaborating with the M. M. Patel Students Research Project Cell at KSV University.
- Developed a robust full-stack application using React.js for a dynamic frontend, coupled with a Node.js backend and MongoDB as the NoSQL database for streamlined content publishing, including the use of Cloudinary for efficient image and video asset management.

- Implemented rigorous unit and integration testing, utilizing frameworks like Jest for robust test suites and Jest for effective mocking of dependencies, ensuring high code quality and reliability.
- Designed and deployed the platform to provide a centralized hub for research resources, research project submissions, and student-faculty collaboration, significantly enhancing the university's research ecosystem.

KrushMart | Odoo x Gujarat Vidyapith Hackathon Finalist - [Link](#)

March 2025

- Implemented KrushMart, a comprehensive full-stack digital platform designed to connect local farmers directly with consumers, promoting the sale and awareness of authentic organic agricultural products.
- Implemented real-time chat functionality between farmers and customers using WebSockets with Socket.io, fostering direct communication.
- Integrated third-party APIs including Twilio for OTP verification services and the Plant.health AI Plant Disease Diagnosis API by Kindwise to provide advanced plant health insights, adding significant value to the platform.
- Developed a highly interactive and responsive frontend using Next.js, providing a seamless user experience for both farmers and consumers.
- Built a robust backend with Node.js and TypeScript, utilizing Prisma ORM for efficient data management and interaction with a PostgreSQL database.

PUBLICATIONS

Automatic Challan System using ANPR and Helmet Detection | Research Paper

- Developed a deep learning-based detection model for identifying helmet violations and vehicle number plates in real-time.
- Submitted the Research Paper in IEEE AISTS 2025, and currently it is under review process.

Automated Waste Segregation Dustbin for Educational Institutions | Patent

- Designed an IoT-enabled smart dustbin integrated with Computer Vision to automatically classify and segregate waste, currently it is under the process of patent application.

CERTIFICATIONS

- **AWS CLF-C02** : Certified Cloud Practitioner — [Link](#) Expiry : May 2028
- **NPTEL** : Database Management System — [Link](#)

VOLUNTEER EXPERIENCE

Executive Committee, IEEE Student Branch - IEEE LDRP-ITR SB

Dec 2023 – Dec 2024

As Webmaster, I managed the branch's online presence, primarily by crafting and maintaining the website. I collaborated closely with the team to successfully organize and execute impactful research-oriented workshops and seminars, ensuring all online aspects ran smoothly.

Graphic Designing Committee Member, Xenesis LDRP-ITR

Feb 2024

Contributed to the creation of cohesive and engaging promotional materials, including posters, banners, and social media graphics, for college's flagship tech fest Xenesis.

ACHIEVEMENTS

- National Level Hackathon SIH-2023 & 2024 Finalist — organized by AICTE and Ministry of Education, Government of India.
- State Level Hackathon SSIP-2023 Winner — organized by the Student Startup and Innovation Policy (SSIP) Cell, Government of Gujarat.
- An acknowledgment letter from our Student Research Project cell for being a finalist in the top 5 teams across India for the National Smart India Hackathon, given by Hon. Chairman of SVKM and President of KSV, Shri Vallabhbbhai Patel.
- An acknowledgment letter from our Student Research Project cell for creating the M M Patel Students Research Project Cell website by the Hon. Chairman of SVKM and President of KSV, Shri Vallabhbbhai Patel.