

# Kaustubh Gharat

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## Education

**Bachelor of Technology in Electronics Engineering** Sardar Patel Institute of Technology, **CGPA: 8.45/10.00** **Mumbai, India | 2020 – 2024**

*Relevant Coursework:* Artificial Intelligence and Machine Learning, Cloud Computing, Data Analytics, Object-Oriented Programming, Soft Computing, Computer Architecture, Computer Communication Networks, Probability and Stochastic Processes, Linear Algebra, Microcontrollers

**Minors, Computer Science,** Sardar Patel Institute of Technology

**Mumbai, India | 2022 — 2024**

*Relevant Coursework:* Data Structures and Algorithms, Database Management Systems, Operating Systems, Web Technology

## Work Experience

**Oracle Financial Services Software** | Associate Application Developer

**Mumbai, India | July 2024 – Present**

- Worked across two teams: Banking Origination and Retail Lending.
- Developed functional UI screens with API integration, improving user experience and system efficiency, using new UI toolkit (OJET).
- Contributed to microservices API development with Spring Boot and handled application deployment using Jenkins, integrating OracleDB for scalable, high-performance financial applications.

**Web3Dao** | Software Developer (Contract)

**Cape Town, South Africa (Remote) | Dec 2023 – Present**

- Led full-stack development of apps with React Native, Expo, TypeScript, Firebase, and Tailwind, including live video streaming, Stripe payment gateway, and AR integration.
- Developed a Twitter bot using Selenium for automatic tweeting, with proxy scraping, rotation, and captcha solving.
- Scraped news using News API, formatted content with ChatGPT, and generated news slides automatically.

**Kifayti Health** | Software Developer Intern

**Bangalore, India | Jan 2024 – Jun 2024**

- Led full-stack development with React.js, Node.js, Express, MariaDB (database design), and optimized RESTful APIs.
- Expanded as a Cloud Engineer by deploying and maintaining scalable AWS applications with EC2 and RDS, ensuring high availability.

**Indian Institute of Technology, Patna** | Research Intern

**Patna, India (Remote) | July 2023 – Sept 2023**

- Improved YOLOv9 for NLB detection with enhanced backbone and neck (GhostConv, C3Ghost, C3TR) for better feature extraction
- Achieved 86.1% mAP@0.5, a 3.1% boost, with multi-scale fusion in the neck and Wise IOU in the loss function.

## Projects

**Drones for Smart Agriculture**

**July 2023 – Dec 2023**

- Under the guidance of Mr. Mark E. Davis and with \$25,000 funding from DSTEI, developed the image-processing module using TensorFlow and post-training quantization, training datasets collected from the field to classify plant health.
- Integrated NVIDIA Jetson Nano on a 5kg drone for plant health classification from 15 meters, ensuring maximum coverage area and meeting image revisit criteria for effective geo-mapping.
- Optimized fixed lens imaging and electro-optical illumination for better signal processing in varying environmental and weather conditions.

**Crime Door - An App by Hollywood Director, Neil Mandt**

**June 2024 - Present**

- Spearheaded the development of the CrimeDoor app using React Native, Expo, Firebase, and Unity3D.
- Designed a user-friendly platform by integrating Unity3D crime scenes into React Native, delivering immersive AR experiences.

## Publications and Patents

- **Kaustubh Gharat**, H. Jogi, K. Gode, K. Talele, S. Kulkarni and M. H. Kolekar, "Enhanced Detection of Maize Leaf Blight in Dynamic Field Conditions Using Modified YOLOv9", 2024 IEEE Space, Aerospace and Defence Conference (SPACE), Bangalore, India, 2024.
- **Kaustubh Gharat**, et al., "Multi-Stage UAV-Based System for Scalable and Accurate Crop Health Monitoring," 2024 IEEE Space, Aerospace and Defence Conference (SPACE), Bangalore, India, 2024.
- **Kaustubh Gharat**, H. Jogi, K. Gode, K. Talele, S. Kulkarni and M. H. Kolekar, "Automated Crop Health Monitoring System using Unmanned Aerial Vehicle", Indian Patent Office, 53397, Application Number: 202421043217, Filed June 4, 2024 and Issued July 26, 2024.

## Technical Skills

<b>Skills</b>	TensorFlow, Machine Learning, Ubuntu, AWS, Git, OJET, SpringBoot, Jenkins, Express.js, Node.js, React.js, React Native, Expo, Firebase, Tailwind, Selenium
<b>Databases</b>	OracleDB, MongoDB, MySQL, MariaDB
<b>Languages</b>	Javascript, Typescript, Java, Python, HTML, CSS, SQL

## Awards and Achievements

- Finalist in the Barclays Data Stellar Hackathon, ranking in the top 5 teams
- Coordinated with recruiters for campus placements through SPIT's Training and Placement Office.
- Volunteered at Snehasadhan NGO, teaching math and science to children at orphanage
- Secured a rank in regional top 100 in National English Olympiad