





# RAHUL R

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 26th March 2003

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 <https://github.com/feelthevenom>

## PROFILE

I am a results-driven professional with expertise in full-stack web development, deep learning, and AI. Proven track record in executing projects that leverage data-driven insights to solve complex problems. Seeking to innovate and contribute to the fields of AI and data science.

## EDUCATION

**B.E in Electronics and Communication Engineering**, *St. Joseph's College of Engineering* 2021 – 2024  
Chennai, India

**Diploma in ECE**, *PSB Polytechnic College* 2018 – 2021  
Chennai, India

**10th SSLC**, *Sri Sankara Vidyashramam Mat.Hr. Sec School* 2017 – 2018  
Chennai, India

## CERTIFICATES

- Best paper Award in IEEE conference 2024- (IIIT Kottayam)
- PyTorch for Deep Learning- (Udemy)
- DBMS-(NPTEL)
- Full Stack Web Development - (Udemy)
- C programming -(Infosys Springboard)
- Android App Development - (Udemy)

## SKILLS

### programming Languages

C programming, Python , JavaScript

### Frontend

ReactJS, Java Script, HTML, CSS, Material UI, Bootstrap

### Natural Language Processing (NLP)

Fine tuning, Deployment , Hyper parameter tuning

### Backend Development

Python, Flask, JWT, SMTP, micro services architecture, SQL, API

### Machine Learning & Deep Learning

Neural Networks, TensorFlow/Keras, PyTorch, Transfer Learning, Computer Vision, Explainable AI (XAI), MLOps, MLflow, Time Series Analysis, Numpy, Pandas, Scikit Learn, Seaborn

### Development Tools & Technologies

Docker, Git, VS Code Editor, Jupyter Notebook

## LANGUAGES

**Tamil** — Native/Bilingual

**English** — Fluent

## PROFESSIONAL EXPERIENCE

**Software Engineer**, *Quinnel Soft Solution*

12/2023 – 01/2025  
Chennai

**Project Name:** Water Treatment Plant Monitoring System (OT Cybersecurity).

### Responsibilities:

- Developed frontend and backend services for real-time monitoring of sensors and actuators, improving system efficiency by 30%.
- Implemented token management for secure user authentication, reducing unauthorized access by 95%.
- Utilized Docker for microservices architecture, ensuring scalability and maintainability, which led to a 25% reduction in deployment time.
- Created an MLOps pipeline for real-time production, including model training, evaluation, and validation, enhancing model accuracy by 95%.
- Worked on image processing tasks with OCR for text extraction from images, achieving a 98% accuracy rate in text recognition.

**Technologies:** React.js, Python Flask ,MySQL, Docker, TensorFlow, OpenCV, OCR, Git

## PROJECTS

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### Plant Disease Segmentation, *Kaggle Dataset Challenge*

08/2024 – 09/2024

**Responsibilities:**

Implemented semantic segmentation for plant disease detection using pre-trained U-Net with ResNet50 backbone.

**Technologies:** PyTorch, U-Net, ResNet50, Transfer Learning, Image Segmentation

**Achievements:** Achieved an IoU Score of 0.8797 and a Dice Loss of 0.0715 and developed comprehensive documentation and analysis in Jupyter Notebook, published on Kaggle.

### Building Extraction From Aerial Image, *(Final Year project)*

02/2023 – 03/2024

**Responsibilities:**

- Developed a deep learning model (BMSU-Net) for automatic building segmentation in aerial imagery, enhancing feature extraction and reducing computational costs.
- Estimated solar metrics including total potential, building count, area, and required panels for informed solar planning.
- Created a user-friendly Python Flask web app for users to upload imagery and receive detailed solar metrics.
- Conducted performance analysis, comparing BMSU-Net with existing models like U-Net and SegNet, achieving superior accuracy and IoU scores.

**Technologies:** Deep Learning, Python, Flask, Aerial Imagery

**Achievements:** Delivered a state-of-the-art solution for solar planning, enhancing decision-making with accurate and detailed solar metrics.

### Fleet Management, *Smart India Hackathon (SIH)*

04/2023 – 05/2023

**Responsibilities:**

- Developed a Fleet Management Website integrating hardware with cloud services using AWS MQTT protocol.
- Optimized real-time tracking and monitoring of vehicle fleets.
- Ensured seamless software and hardware integration for enhanced functionality.
- Implemented data visualization and analytics for better fleet management.

**Technologies:** AWS MQTT, Cloud Services, Web Development

**Achievements:** Successfully showcased skills in software and hardware integration, delivering an efficient fleet management solution.

### 24/7 Health Monitoring System using ESP8266, *Final Year Project in Diploma*

08/2020 – 03/2021

**Responsibilities:**

- Developed a cost-effective health monitoring system using ESP8266 for patients on bed rest at home.
- Integrated various sensors to monitor vital signs such as heart rate, blood pressure, and oxygen levels.
- Created an Android app using Android Studio for real-time monitoring and alerts.
- Ensured data security and privacy through encrypted data transmission.
- Enabled early detection of health issues and timely interventions, improving patient outcomes.

**Technologies:** ESP8266, Android Studio, Sensors (heart rate, blood pressure, oxygen levels)

**Achievements:** Delivered an accessible and reliable solution for personalized healthcare, significantly enhancing home monitoring capabilities for bedridden patients.

## INPLANT TRAINING

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### Inplant Training on Telecommunication (BSNL)

- Learned networking fundamentals and concepts at BSNL Telecommunication.
- Gained hands-on experience with various networking technologies.

## PUBLICATIONS

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### BMSU-NET: BUILDING EXTRACTION FROM AERIAL IMAGERY, *IEEE Conference*

Proposed model for high accuracy building segmentation from aerial images by modifying UNet Model.