

# Ronaak Diamond

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## Education

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- High-school (12th): Mothers Public School – 89.8%
- College: Vellore Institute of Technology, Chennai – CGPA: 8.59

## Work Experience

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- Embedded System Design Internship Program (Summer Intern)

## Skills

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- Python, C, Java
- MATLAB
- R
- PLC
- Simulink
- Embedded System Design
- Control Systems
- Power Electronics
- Logic Design

## Projects

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- **Gesture Controlled Car Using ESP32 and NRF (Transmitter-Receiver):** Designed a hardware prototype of a gesture-controlled car using ESP32 and NRF24L01 modules with real-time wireless communication.
- **Buck-Boost Converter:** Built and simulated a DC-DC buck-boost converter using power electronics hardware and MATLAB/Simulink analysis.
- **12V to 220V Inverter:** Developed a MOSFET-based inverter converting 12V DC to 220V AC, tested with hardware circuitry and waveform validation.
- **Predictive Maintenance System:** Built an Arduino-based vibration monitoring system with MATLAB signal processing to predict faults in rotating machinery.
- **Traffic Sign Recognition:** Built a deep learning model in TensorFlow for traffic sign classification, integrating dataset preprocessing and CNN training.

## **Interests**

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- Artificial Intelligence & Machine Learning
- Embedded Systems
- Power Electronics & Renewable Energy Systems
- Sports
- Script Writing

## **Certifications and Workshops**

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- PLC Workshop – Hands-on training in industrial automation using PLCs.
- Workshop on VEGA Processors and Ecosystem – Exposure to processor architecture and development environment.
- NEST Hackathon – Participated in collaborative problem-solving and prototype development.
- PCB Workshop – Practical experience in printed circuit board design and fabrication.
- App Development Workshop – Basics of mobile app design and development.

## **Extracurricular**

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- FFCS Member – Club Sports
- Script Writer at Kalinga Jyoti (Odisha Cultural Club); managed events at Kalinga Jyoti