JOHANAN S. A.

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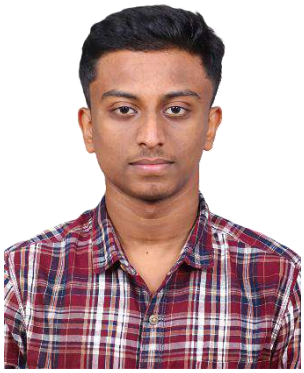

Mechanical Engineering Student with hands-on experience in CAD, IoT, and Machine Learning projects. Passionate about solving real-world problems through Interdisciplinary Engineering, with a strong aptitude for fast and adaptive learning.

Technical Proficiency

Key Skills

- SOLIDWORKS
- ANSYS
- NX CAD
- AutoCAD
- Arduino
- Raspberry Pi
- Python Language
- Next.js
- Machine Learning
- C Language
- Speech Intelligibility
- Psychoacoustics

Certifications

- **Udemy** – The Complete Web Development Bootcamp
- **TCS Code Vita Season 11** – Global Rank - #834
- **Dassault Systèmes** – Sustainable Design Associate
- **Dassault Systèmes** – Additive Manufacturing Associate
- **Dassault Systèmes** – CAD Design Associate
- **NEC Hi-Tech Fest 2k23** – 2nd Place – Web Design
- **SRM – Tech Fest** – Code-a-thon – Runner up

Positions of Responsibility

- **ISHRAE** – Student Member – 2024
- **NEC Automotive Club** – Student In-charge – 2024
- **NEC Eco Club** – Student Member – 2024

Educational Details

National Engineering College, Kovilpatti | Bachelors in Engineering **2022 - 2026**

Major: Mechanical Engineering | CGPA up to 6th Semester: **7.96**

St. Antony's Public School (CBSE), V. M. Chathram, Tirunelveli **2015 – 2021**

10th Exam: **83.6%** | 12th Exam: **75.4%**

Bell Matriculation Higher Secondary School, Palayankottai, Tirunelveli **2006 - 2015**

Projects Completed

- **CFD Analysis of Aero-Acoustic Properties of DJI Drone Propeller using ANSYS Fluent | 2025**
  Modelled and simulated a DJI propeller using SolidWorks and ANSYS Fluent to analyse airflow and **acoustic performance**. Identified tip vortices as the primary noise source and evaluated **toroidal propeller** designs for reduced noise.
- **Automated Cattle Detection and Risk Mitigation System Using Real-Time Cloud Integration | 2025**
  Developed an AI-driven cattle detection system using **Raspberry Pi**, with real-time alerts via Firebase and a **Django**-based dashboard for remote monitoring and risk mitigation
- **Smart Water Quality Monitoring System | 2025**
  Designed an **IoT**-based system using **ESP32** to monitor pH, turbidity, and TDS in real time, with calibrated sensor data pushed to Firebase and visualized through a mobile-friendly dashboard for smart environmental monitoring.
- **5-Axis Robotic Arm for Pick & Place Operation | 2024**
  Designed and prototyped a **3D-printed** robotic arm with **Arduino**-controlled continuous servos, implementing custom PWM logic for accurate angular positioning and joystick-based manual control for precise motion.
- **Prediction of Production Parameters of Aluminium Wire Rod Manufacturing using Machine Learning & Optimization Techniques | SIH-2024 | 2024**
  Led a team to develop a **PyTorch**-based ML model for predicting key production parameters, with **optimized** preprocessing and integration into a simulated manufacturing environment; selected for Smart India Hackathon 2024 at college level.
- **RTC-based Solar Tracking System for Solar Energy Farms | 2023**
  Built a functional Arduino-based solar tracking prototype using an RTC module and servo motors to dynamically adjust panel orientation based on solar position; received academic distinction ('O' grade) and recognition for technical merit and project leadership.

In-Plant Training

- **IPRC (ISRO Propulsion Complex), Mahendragiri – 2025**

  Duration: 2 weeks (29th May 2025 – 11th June 2025)

  Outcome: Learned about Testing and Integration of Rocket Engines and Stages.

  Also learned about the different manufacturing processes employed in the industry.

- **HP Green Energy, Bengaluru – 2025**

  Duration: 2 weeks (23rd Dec 2024 – 6th Jan 2025)

  Outcome: Learned about Wind Turbine Installation and Resource Planning involved in the process.

NPTEL Courses Completed

- Product Design & Manufacturing – IIT, Kanpur – 2025 – 🥈 **Silver Medal**
- Automation in Production Systems and Management – IIT Kharagpur - 2024
- Social Innovation in Industry 4.0 – IIT, Kanpur – 2023 – 🥇 **Gold Medal & Top 5%**
- Technical English for Engineers – IIT, Madras – 2023 – 🥈 **Silver Medal**

Personal Information

Date of Birth	**:**	23-06-2003
Address	**:**	B125, 19th Street, Rahmath Nagar, Palayankottai, Tirunelveli - 627011, Tamil Nadu, India.
Phone	**:**	+91 741 830 8109
Email	**:**	contact@johanan.in
Course Studying	**:**	B.E. Mechanical Engineering – IVth Year
College	**:**	National Engineering College, Kovilpatti.
Area of Interest	**:**	CAD, Robotics, IoT, Machine Learning and Web Development.

Important Links

- **GitHub Profile:** github.com/johanan-23
- **LinkedIn Profile:** linkedin.com/in/johanan23
- **Portfolio Website:** johanan.in