

# Immanuel Varghese Koshy

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## EDUCATION

### Vellore Institute of Technology,

Bachelor of Technology in Electronics and Commn. Engineering | Vellore, India

Sept. 2020 - June 2024

CGPA: 8.47 / 10

## EXPERIENCE

### SUN Mobility, Heavy Electrical Vehicle Team

Feb 2024 - Present

- Contributes as a Solution Systems and Embedded Hardware Engineer in a pilot team developing swappable battery packs and charging infrastructure for high-voltage electric vehicles in a cross-functional capacity .

### Assailing Falcons, Team Vice-Captain

Apr 2023 - Present

- World Design Rank - 3 and Asia Rank - 1. Played a vital part in the team reaching. Led the development of autonomous aircrafts, ground vehicles and drones for SAE International competitions and mentored 50 interns.

### Assailing Falcons, Avionics and Automation Engineer

May 2022 - Apr 2023

- Development of autonomous aircrafts, ground vehicles and drones for SAE International competitions.
- Built custom PCBs, RPI based target recognition systems, telemetry system for transmission of live feed and real time data and propulsion systems.
- Sole Designer for Design Report.

### Keltron Component Complex LTD, Electronics Intern | Trivandrum, India

May 2022 - June 2022

- Worked in development, prototyping and marketing of various electronic components like inverters, rectifiers, and management systems for power generation applications like in nuclear & thermal plants
- Helped improve IP rating, write source code, troubleshoot, and run system tests under guidance of a supervisor. Later worked in Security, Surveillance and ID development department that controls whole state of Kerala.

### Indian Society for Technical Education, Senior Core Member

Jan 2021 - Present

- Help organize and host hackatons and webinars on a national level.

## PROJECTS

### Autonomous Vehicle Project

May 2022 - Apr 2023

- An autonomous ground vehicle that navigates mazes autonomously using LIDAR sensors and Arduino Uno while encompassing manual RC based controls.

### Abnormal Mammary Growth Analyser

Jul 2021 - Dec 2021

- A MATLAB based classifier system that takes in mammary scans as input and highlights the malignant growth areas using markers.

### Network Surveillance and Home Automation System

2020 - Present

- A hybrid system that takes old school relays, converts them into WiFi relays and integrates them into Apples HomeKit through JSON Scripts & HomeBridge api running off an RPI.
- Takes DVR based and IP based surveillance footage off the LAN and routes it into a HomeKit Hub for local processing and secure save in iCloud.

## PUBLICATION

### Smart-Door Bio sentry, Sustainable Innovation in Engineering and Technology (SIET) 2023

- Published under the IoT domain of SIET 2023 conference and made a working prototype of a smart doorbell which doubles as a anti Covid/Viral protection system via inbuilt health sensors and a disinfectant dispersal system. Works on a YOLOV3 model running off a RPI.

### Intelligent Warehouse Optimization System, IEEE CONECCT 2024

(Under Review)

- It is linear regression based System designed to optimize warehouse management by seamlessly combining machine learning, IoT technology and predictive maintenance. The primary goal of IWOS is to enhance the overall efficiency, accuracy and reliability of warehouse operations, ultimately leading to reduced costs.

## HONOURS AND AWARDS

### Special Achiever Award,VIT Vellore,

Highest Award bestowed upon a student by the university for international achievements

April 2023

### Bright SPOT/ South Indian Topper,

Vikram Sarabhai Science Initiative at Sathish Dhawan Space centre

May 2018

### Award of Honour,Bishop Moore Vidyapith,

Best outgoing Student from 2018 ICSE batch at Bishop Moore Vidyapith

January 2023

### Best Exhibition Partner, BITS Pillani,

Awarded during BITS APOGEE 2022

April 2022

### Best Spokesperson ,Bishop Moore Vidyapith,

March 2018

## CERTIFICATIONS

IoT with Smartworks by Altair

April 2023

Security Fundamentals by MTA

2021

Music theory Grade 3 from Trinity College, London

2017

## VOLUNTEERING

Designer at Helphen India (NGO)

Jan 2023 - Present

Editorial Head at VIT Stellar

Jan 2022 - May 2023