

# Tamil Selvan G

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## EDUCATION

### Vellore Institute of Technology, Chennai

Bachelor of Technology

Electronics and Communication Engineering

July 2016 - Present

Present CGPA: 8.94

### Maharishi International Residential School

Class 12 -AISSCE CBSE

April 2016

Overall Percentage: 89.8%

### Maharishi International Residential School

Class 10 -AISSE CBSE

April 2014

Overall Percentage: 90.0%

## ACHIEVEMENTS

### Best Paper Presentation Award, IRCE, NUS, Singapore.

(August 2019)

- Awarded Best Paper Presentation award for presenting the Research paper in **Electronic Component Sorting Robot in E-Waste Management**.

### Winner, IMLEAP - Siemens Healthineers Pvt. Limited.

(July 2019)

- Innovation Management and Leadership Certification Program (IMLEAP)– Presented solutions pertaining to Diagnosis Treatment of Stroke patients using Artificial Intelligence.

### Winner, Make-a-thon- Robotics Club VIT Chennai.

(December 2018)

- Won 1st prize for developing Mars Rover - sensor fusion system amongst the top 120 students selected in India.

### Best project of the year, VIT Chennai

(October 2018)

- Awarded Best project for the year award for 2018 by VIT Chennai for creating **Autonomous Farm surveillance and Crop Health monitoring Robot**.

### Winner, Start-up Hunt Competition- VIT Chennai.

(February 2018)

- Won 1st prize for presenting a business and prototype Model on Assistive technology for Blind people and Geriatrics. Awarded 50,000 Rupees for developing the product by Ministry of MSME – Government of India

### Dr.A.P.J. Abdul Kalam IGNITE Award 2014, NIF, India

(2014)

- Awarded Young Scientist of the year for Invention of Automated Crutch to Wheel chair conversion system.

## EXPERIENCE

### Visiting Student, Auckland Bio-engineering Institute, New-Zealand

December 2019\*

- Currently Developing Smart Medical System under Dr.Suranga Nanayakara, University of Auckland,New Zealand.

### Intern, Petrofac Engineering Services Pvt. Limited ,India.

July 2019

- Worked on Computer Networks,Sensors and Instrumentation application in Petroleum Extraction

### President, IEEE Robotics and Automation Society

2018 -2020

- **Head of Research and Development** in IEEE -Robotics and Automation Society student chapter of VIT-Chennai.
- Responsibilities - Validate the feasibility of potential project ideas. Initiate, manage and successfully complete the identified projects.Train students to meet current industrial skills.
- Successfully conducted 18+ Workshops and 12 Hack-o-thons and Guided a team to develop Swarm Robots for Military purpose and presented in a competition conducted by DRDO,India.

**Teaching Assistant, Electromagnetic field theory,VIT-chennai**

2018-2019

- Served as Teaching assistant at VIT,Chennai under Dr.Thirupurasundari.
- Prepared Coursework,Guided projects and Evaluated assignments for a class of 60 students

**Intern, Experts Hub Industrial Training centre ,India.**

June-2019

- Recognized as **Best intern**, for the Work on Real-time Weather monitoring system using IoT and Prediction system using Deep learning model .

**Core Coordinator, TechnoVit- VIT-Chennai.**

Fall-2018

- Responsibilities - Monitoring and Organising all Events that are being conducted as a part of the TechnoVit.
- Coordinated International Technical Extravaganza organized by VIT Chennai,Successfully conducted 30+ Workshops, 100+ Technical and Non technical Events.

## RESEARCH

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**Real-time prediction of Cardiovascular diseases using Deep Learning***Under review for IJRTE*

- Authors: **TamilSelvan G**, Sridhar Pandian and Akilan B; Guide:Dr.Suchetha
- The Aim of this thesis is to detect cardiovascular problems of a remote patient by using Machine Learning and Deep Learning models on real-time data from wearable.Algorithms such as XGBoost, Random forest and networks such as ResNet were used for detection.

**Electronic Component Sorting Robot in E-Waste Management**

Fall 2019-2020

- Authors: **TamilSelvan G**, Dr.Velmathi - Research Project under Provisional Patent Review
- A smart robot which identifies and sorts the electronics components such as resistors, capacitors, coils and IC's from the unused thrown printed circuit boards.These sorted components are tested for working conditions and will be sent to electronics manufacturing company for Re-use.

## PROJECTS

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**Autonomous Farm surveillance and Crop health monitoring Robot.**

Fall 2018-2019

- Designed and Developed smart rover, which uses a camera to identify the plant disease and weeds by using Deep learning model. Smart rover is based on algorithms for obstacle avoidance, path-planning and path-tracking which eases the surveillance around the farm.

**Color and Shape Based Object sorting Robotic arm.**

Fall 2018-2019

- Designed and Developed 4 Dof Robotic arm using 3D Printer , Programmed the robotic arm using Ardiuno UNO R3(for controlling Servo movements of robotic arm) , Raspberry pi 3-Pi camera(for Processing the object-Shape detection and Color-extraction ) and feed-ed the data to the cloud for further processing .

**IoT Based Home-Hospital Automation Using Voice assistance.**

Fall 2019

- Designed and Developed the low-cost Home and Hospital automation system using the IoT(Internet of Things) technology along with the feature of Amazon Alexa .

**Smart Street and Traffic Control System.**

Fall 2018

- Smart Street and Traffic Lights that change color based on the traffic density in different lanes (implemented using raspberry pi with OpenCV).

**Design and Implementation of Li-Fi Based Communication System.**

Fall 2017-2018

- LI-FI to transmit data and Array of Solar cells to Receive/transfer data in a Room/Hall.Used array of Amplifiers and Solar cells to Transmit/Receive data and processed the signal using Raspberry pi3 and Reduced Noise

## TECHNICAL SKILLS

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- **Interest :**Robotics and Automation, Embedded system design, Deep-Learning, Computer vision
- **Languages :** Embedded C, C++, Python, Java, R programming
- **Tools :** ROS, Robo-dk:Robotics simulation, Cadence-VLSI Design, Eclipse, Matlab and Simulink, Android Studio, Rstudio.
- **Python Frameworks Libraries :**Keras, TensorFlow, Pytorch, Numpy, OpenCV,Vpython.