# R. Suriyamoorthy

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<https://github.com/Surdhan>

# CAREER OBJECTIVE

Highly motivated and creative fresher seeks an exciting and dynamic role to passionately contribute to cutting-edge projects, revolutionizing OCR, Lora, Li-Fi, Raspberry pi, Bluetooth technologies, and driving positive change. With a strong belief in stopping reinventing the wheel and embracing challenges as opportunities, I understand that stars can't shine without darkness.

# QUALIFICATION DETAILS

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| **Duration** | **Course** | **Institute** | **University** | **Percentage** |
| 2021 - 2025 | B.E., (ECE) | AAA College Of Engg And Tech Sivakasi | Anna University | 8.54% [Up to 5rdsem] |
| 2021 | Diploma | Python Programming | TNE&T | 91 % |
| 2020 - 2021 | HSLC | PSL Narayana Vidiyalaya | CBSE | 78.9 % |
| 2019 - 2020 | SSLC | PSL Narayana Vidiyalaya | CBSE | 79.8% |

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| **Technical Stack** | **Project** | **Patent** | **Journals** |
| 1. Embedded C 2. Python ML /DL 3. HTML, CSS 4. Lora -Node MCU 5. Image processing | 1. Lora-Based Rover For Planetary Exploration Adapting Surveillance Spy Robot For Space Sample Detection 2. Lives Saving with Intelligence Lifi 3. Leaf Disease Detection – Image Processing 4. Pettikadai – Ecommerce Application 5. Alfa To Omega – Digital Medical Kit 6. A Smart Newspaper Reading System For Visual Impairments (Blind) Using Neural Networks 7. Smart Road Sign Detection And Vehicle Control System Using CNN And Raspberry Pi 8. Synthetic Medical Image Segmentation And Edge Detection Using Image Processing Technique | I Hold 1 Patent | 2+ paper Submitted to the Journal publication |

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# AWARDS AND REWARDS

1. I received the 1nd prize for Paper presentation in ISTE conference at PSR college of engineering from Zoho CEO
2. I received the 1nd prize for Poster presentation in Intersect at CECRI-Karaikudi won 2000 cash reward
3. I received the 1nd prize for Paper presentation in Intersect at CECRI-Karaikudi won 1000 cash reward
4. I received the 1nd prize for the Startup INNOVATE HACKTHON conducted by ZOHO with a cash reward of 10,000 at Kalasalingam university on march
5. I received the 1nd prize for Paper presentation from Karpagam Institute of technology Coimbatore
6. I received the 2nd prize for the Best Project Award with a cash reward of 9,000 at MEPCO SCHLENK College of Engineering on January.
7. Received the 1st Best Community Choice Award at Technovese 2023 conducted by Cognizant
8. I received the award for the best paper presentation at Sri Eshwar College of Engineering and Technology Coimbatore with a cash reward on September 20, 2023.
9. I received the award for the best project presentation at Sri Eshwar College of Engineering and Technology Coimbatore with a cash reward on September 20, 2023.
10. I received the award for the Best Paper Presentation at NIT-Tiruchirappalli on March 5 2022.
11. Recognized as the Best Manager at Kamaraj College of Engineering on February 9 2022,
12. I received the 1st prize for the best manager (multi-task) from SIT CET on February 4 2022.
13. I received the award for the Best Paper Presentation at MEPCO SCHLENK College of Engineering on February 17–18 2022.
14. I received the 3rd prize for the paper presentation at HUMPAC from AAACET during my first year 2022.
15. I received the first prize for the debate from Sethu Institute of Technology, Madurai on February 4th 2022.

**INTERNSHIP EXPERICE AND RESPONSIBILITIES**

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| **S.NO** | **Company Name** | **Duration** | **Project/ Service** | **Position** |
|  | Kalasalingam ACIC-Foundation | January 8th to January 31st | SEE-speech enabled explore  [ 2 lakh funded] | Project Intern |
|  | Sarithira Ilaigargal | Since 2023 | Social service | Regional Head |
|  | Real Sports AI Chennai Tambaram | June 2023 to July 2023 | ML&DL in python | Project Engineering Intern |
|  | MyGov India, Delhi | June 2023 and continues | NEP -education policy | Campus Ambassador |
|  | TEACHNOOK | June 2023 to July 2023 | SEO | Brand Executive |
|  | Internschoice EdTech Private Limited logo Interns Choice EdTech Private Limited, Bengaluru, Karnataka, India | May 2023 to July 2023 | Content writing | Brand Executive |
|  | Price less Brain | Since 2022 | Student forum | Founder |
|  | Rail Net, Madurai, Tamil Nadu, India | August 2022 to September 2022 | * Rail Transport * Railroad Signaling * Railway Track Design | Student Intern |
|  | AAA college of engineering and technology Sivakasi | Since 2021 | * Teamwork * Public Speaking * Presentations * Heavy Duty * Equipment Operation * Crew Supervision | * IIC Student member * Student member for Eco club * Co Ordinator for National level technical level symposium |
|  | Revolution Rescuers, Madurai | Since June 2019 | 150+ saplings | Co-founder |
|  | Ninal Nanbargal | Since May 2019 | Planting 3000+ saplings | Executive Assistant |
|  | Pay your result Pvt, tution centre , Madurai | Since 2018 | Teaching to 4+ state board and CBSE student | Assistive |

**PARTICIPATION DETAILS**

* 1. I recently presented my research paper at the International Conference on Communication and Electronics Systems (ICCCES'24), held at IEEE & IETE New Prince Shri Bhavani College of Engineering and Technology, Chennai.
  2. I participated in the quiz program On Brain buffet organized by Jeppiaar Engineering College, IEEE Madras Section, IEEE WIE Madras Section I, EEE Jordan Section SIGHT IEEE ComSoc Young Professionals.
  3. I participated in the quiz program on 2024 lokshaba election conducted by Virudhunagar.
  4. I participated in the Esculisa best manager At MECPO conducted by MBA department.
  5. I participated in the Umagine 2024 at Chennai trade Centre.
  6. I participated in the 3 IDIOITS at VELLAMAL college, month of January 2024.
  7. I participated in the IIC-regional meet at Francis Xavier college Tirunelveli on 2024 January.
  8. I participated in the Ideathon ACIC foundation at MEPCO, month of January 2024.
  9. I participated in the Ideathon ACIC foundation at KALASALINGAM Month of November 2023.
  10. I participated in the IEEE project presentation at KUMARAKURU college of engineering and technology on the month of September 2023.
  11. I participated in the Workshop on Advanced Optical Communication conducted by IIT Madras in Chennai in 2023.
  12. ICT Academy Uipath Apps Academic Challenge 2024.
  13. I attended the Workshop on Artificial Intelligence conducted by NIT Tiruchirappalli from the 3rd to the 5th of March 2023.
  14. I took part in the Workshop on Advanced Optical Communication conducted by IIT Madras in Chennai in 2023.
  15. I participated in the State Level TECHGENZHI'S Techathon organized by TechGenzi on the 9th of June 2022.
  16. I attended the Quality of Service in 4G and 5G Network workshop on the 21st of September 2022
  17. I took part in the Bootcamp on Innovation and Design organized by Startup TN in Tirunelveli from the 24th to the 25th of January 2023.
  18. I participated in a two-day awareness program on "Atoms in the Service of the Nation" organized by IGCAR on August 5th and 6th, 2022 MEPCO.
  19. I attended the Cultural Fest Legacy'2022 organized by MEPCO Schlenk Engineering College on September 16th and 17th, 2022.
  20. I took part in Zeta Quest-2022 organized by VHNSNC on May 13, 2022.
  21. I participated in the 19th Jaycee CARNIVAL organized by JCI SIVAKASI on November 11, 2022.
  22. I attended the Cultural Fest Legacy'2022 organized by MEPCO Schlenk Engineering College on September 16th and 17th, 2022.
  23. I participated in a workshop on AI and ML at NIT Tiruchirappalli on 2022.
  24. I participated in a Speech competition organized by the Tamil Nadu government at VHNSN College on April 8, 2023.
  25. I took part in a Singing competition organized by the Rotary Club from December 20th to 28th, 2021.
  26. I participated in the Smart India Hackathon 2022**.**

**VOLUNTEER EXPERIENCE**

* NASA SPACE APP challenge 2023.
* Niral Thiru Vila Problem statement collected from various department at collectorate Virudhunagar.
* Placement drive at AAA CET Campus.

**LICSENCED CERTIFIED COURSE**

Power BI SEO, Project requirements fundamental, Mobile app development with flutter, NO code app development, MIT app convertor, Robotics internship, Python fundamental

# LETTER OF APPRECIATION

1. I have been appreciated by the ACIC Innovation Foundation for completing the project SEE.
2. I have been appreciated by AAACET for the activity of the ECO Club academic year 2021–23.
3. I have appreciated AAACET for the activity of donating the book to the library for the academic year of 2022-23 and 2023-2024

# PERSONAL VITAE

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| Date of birth | 25-08-2002 | |
| Language Known | Tamil, English, Hindi, Sanskrit, Telugu, Spanish | |
| Hobbies | Planting, Drawing, | Content writer |

**PROJECTS AND DETAILS**

**Native Voice Alert System for Blind Navigation: Utilizing**

**Ultrasonic Sensor HCSR04 with ISD1820 and Arduino nano**

**Abstract**

This project introduces a Native Voice Alert System for blind navigation, integrating an Ultrasonic Sensor (HCSR04), ISD1820 voice module, and Arduino microcontroller. The system offers real-time obstacle detection and auditory alerts in a native voice format. By leveraging distance measurement capabilities and native voice feedback, it aids blind individuals in navigating their environment safely. The primary goal is to enhance autonomy and safety during navigation for the visually impaired. Keywords: Blind navigation, Ultrasonic sensor, HCSR04, ISD1820, Arduino, Voice alert system, Native voice, Obstacle detection, Assistive technology.

**Keywords**: Blind navigation, Ultrasonic sensor, HCSR04, ISD1820, Arduino, Voice alert system, Native voice, Obstacle detection, Assistive technology.

**LoRa-Based Rover for Planetary Exploration Adapting Surveillance Spy Robot for Space Sample Detection**

**Abstract:**

This paper presents the adaptation of a LoRa-based surveillance spy robot into a rover designed for space exploration and sample detection on other planets. Leveraging the robust communication capabilities of LoRa technology, the modified rover aims to transmit data and facilitate control in challenging extraterrestrial environments. The project involves hardware modification, integration of space-grade components, software development for navigation and sample detection algorithms, and rigorous testing under simulated space conditions.

**Keywords**: LoRa, Rover, Space Exploration, Sample Detection, Extraterrestrial Environments.

**IOT-BASED SMART SOLUTION FOR LEAF DISEASE DETECTION IN AGRICULTURE**

**ABSTRACT:**

Crop diseases pose a significant threat to agricultural productivity and food security. This study explores innovative approaches to mitigate these challenges by leveraging advanced technologies. Specifically, it focuses on the integration of Convolutional Neural Networks (CNNs) and Internet of Things (IoT) in smart agriculture for disease detection. A four-wheeled Bluetooth-controlled robot equipped with a camera is deployed for image capture of plant leaves. These images are then analyzed using a CNN model implemented with TensorFlow and Keras libraries to identify and classify diseases accurately. Additionally, IoT technologies are utilized for real-time monitoring of environmental parameters such as soil moisture, temperature, and humidity. The system provides farmers with actionable insights through web and mobile interfaces, enabling timely interventions to protect crop health and optimize yield. Results demonstrate the effectiveness of the proposed approach in enhancing agricultural productivity and sustainability.

**Keywords:** Smart Agriculture, Crop Disease Detection, Convolutional Neural Networks, Internet of Things (IoT), Image Processing, Robotics, Environmental Monitoring

**AUTOMATIC ROAD SIGN DETECTION AND VEHICLE CONTROL USING NEURAL NETWORKS**

**ABSTRACT:**

Many road accidents occur due to the negligence of road signs and warnings by the driver driving the vehicle. In order to alert the drivers about the road signs and automated control of the vehicle, an automated smart road sign detection and vehicle control system has been designed and developed. The proposed system for automatic road sign detection and vehicle control using Raspberry Pi is designed to utilize the power of deep learning algorithms to accurately detect and recognize road signs in real-time. A camera is used to capture the road signs and the captured images are processed using VGG16 Convolutional neural networks. The VGG16 convolutional neural network architecture has been chosen as the primary deep learning algorithm for this project due to its high accuracy and widespread use in computer vision applications. The VGG16 network is pre-trained on the ImageNet dataset, which contains over 14 million images and 1,000 object categories. By fine-tuning this pretrained network on dataset of road sign images, it will achieve state-off-art performance in road sign detection and recognition. This deep learning-based approach allows for robust detection and recognition of road signs under various lighting and weather conditions, and even in cases of occlusion or partial obstruction. The use of the VGG16 network ensures that the system is both accurate and efficient, enabling real-time performance on a low-power platform such as the Raspberry Pi. This project has also implemented automated controlling of the vehicle based on the road sign detected in real-time. Overall, the integration of deep learning algorithms such as VGG16 along with the Raspberry Pi based embedded system into this road safety system represents a significant step forward in improving driver safety, preventing accidents on roads and contributes to the foundation of autonomous driving technology.

**Keyword**s: Road sign detection, VGG16, Convolutional Neural Networks, Raspberry Pi, Deep Learning, Autonomous driving.

**A Smart Newspaper Reading System for Blind People Using Neural Networks**

**ABSTARCT**

Optical Character Recognition (OCR) or optical character reader is the electronic conversion of an images of typed, handwritten or printed text into a machine encoded text, whether from a scanned document or from subtitle text superimposed on an image. Recently, Machine learning algorithms are developed for recognizing the texts using natural language programing and machine learning algorithms. Machine learning programs can perform tasks without being explicitly programmed to do so. In this research work, we present the design and development of a smart text to voice converter for assisting the blind people in reading documents such as newspapers, signboards etc., This smart system is based on Raspberry PI and Neural Networks based algorithms. A camera is used for capturing the image of the handwritten or printed text. This image is taken as input and using the neural networks and machine learning algorithms the text in the image is identified and is converted in to audible voice format with the help of a loud speaker. The system was successfully tested for font sizes ranging from 20-14. This smart system will be of great advantage to visually impaired people as-well-as the normal people in order to increase their level of comfort.

**Li-Fi Enabled Smart Traffic Management System for Vehicle-to-Vehicle Communication**

**Li-fi** is a field of research which has to cover several miles in each and every phase to prove its efficacy as a potent technology that holds the strength to challenge the wide-ranging technology today. It enhances wireless infrastructures by providing an additional layer of small cells. By this technology we can transmit data at the rate of **10Gbit/s** which is almost **250 times** faster than any other high speed broadband connection. Because of its transmission speed. The paper is further divided into prominent sections that deal in providing an accurate idea about the working and implication of **Li-fi** technology in the current scenario. Moreover, the paper also proposes various technical standards and modulation that are will be followed by **Li-fi** technologies, thereby focusing on its future implication. Apart from that, the main aim of designing the system is to limit traffic congestion and thus, reduce the increasing number of road accident in the present times. Car headlights and tail lights are steadily being replaced with LED versions. This offers the prospect of car-to-car communication over **Li-Fi**, allowing development of anti-collision systems and exchange of information on driving conditions between vehicles, The main objective of this project is to manage traffic on crossroads by establishing **Visible Light Communication** (VLC) among vehicles and infrastructures (Traffic lights, sign boards, road stud etc.,)

**DECLARATION**

I declare that I am committed to continuous growth and development, and I approach challenges with a positive and proactive mindset to achieve excellence in all endeavors.