

# SATHIYA MURTHI SANKARAN

19/1 Venkatarathinam Road, Teynampet, Chennai-600018, Tamil Nadu, India  
Contact No: +91-9884833038; Email: sathiyamurthi239@gmail.com

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## ACADEMIC QUALIFICATION

- **Bachelor of Engineering (Electronics and Communication)** from Madras Institute of Technology, Chennai, affiliated to Anna University, August 2018 - June 2022, CGPA: 9.52/10

## INTERNSHIPS/INDUSTRIAL TRAININGS

- **Project Engineer – AI in US, IIT Madras, Chennai (Full time) (August 1, 2022 – Present)** - Working on Image processing and application of Deep Learning techniques on Fetal Ultrasound images.
- **Technical Lead (Part time) (March 14 to May 14, 2022)**  
**Junior Data Scientist (Internship) (October 11, 2021 – March 14, 2022)**  
**Zummit Infolabs, Chennai (remote)** Worked on client projects involving Image processing, Object detection, algorithm development, Micro-controller integration and deployment.
- **Intern, Wipro Limited, Chennai (remote) (June 1 to July 30, 2021)** Interned in Site Reliability Engineering and learnt concepts of SLOs, SLIs, SLAs, Web application development and deployment
- **Image processing Intern, Coovum Smart Systems, Chennai (April 15 – August 31, 2021)** Worked on Human body measurement extraction from 2D images and integration of DL algorithms
- **ML Intern, CodeSpeedy Technology, Chennai (remote) (August 29 – September 29, 2020)** Contributed source code in Deep Learning on CodersPacket blog

## RESEARCH/ACADEMIC PROJECTS

**Title: Reinforcement Learning based Automated Path Planning using Depth**

**Duration:** Feb 2022 – June 2022

**Team Size:** Three

**Objective:** To perform hardware implementation of Reinforcement Learning based path planning to generate a map of an unknown environment by performing depth estimation based obstacle detection

**Individual role:** Worked on RL Path planning algorithm suitable for hardware implementation, Obstacle detection algorithm and interfacing stereo camera with NVIDIA Jetson Nano.

**Title: Third Eye**

**Location:** Zummit Infolabs

**Duration:** October 2021 - May 2022

**Team Size:** Six

**Objective:** The aim of the project is to create an application deployed on a microcontroller to help the blind in daily tasks such as Navigation, Collision warning, Reading and detection of everyday objects

**Individual Role:** Implementation of YOLOv5s model for detection of Obstacles, set up decision algorithm for warning and alert system for the user. Worked on merging of modules and their deployment on Raspberry Pi.

**Title: Site Reliability Engineering**

**Location:** Wipro, Chennai

**Duration:** June 2021 - July 2021

**Team Size:** Three

**Objective:** To monitor metrics and traces of a sample web application deployed on AWS EC2 and calculate SLIs and Error Budgets

**Individual Role:** Development of sample web application using Flask and Django, exporting of metrics and collection using Prometheus, calculating and displaying SLIs in dashboards using Grafana

**Title: 2D Auto Measurement**

**Location:** Coovum Smart Systems and Services, Chennai

**Duration:** May 2021 - July 2021

**Team Size:** Two

**Objective:** To extract human body measurements from 2D images.

**Individual Role:** Worked on development of suitable algorithms to extract the measurements, implemented image processing and integrated pre-trained Deep Learning models to provide required output.

**Title: Epileptic Seizure Prediction**

**Location:** Madras Institute of Technology, Chennai

**Duration:** March 2021 – May 2021

**Team Size:** Three

**Objective:** To train a CNN-LSTM model to classify EEG signals to predict epileptic seizures.

**Individual Role:** Pre-processed raw EEG signals from CHB-MIT EEG dataset to make it suitable for training. Tested multiple models to predict imminent epileptic seizures.

**TECHNICAL SKILLS**

**Programming** : C++, Python

**Technologies** : Machine Learning, Deep Learning, Image Processing, Micro-Controllers (Arduino, Raspberry Pi, Jetson Nano), IoT, Web Development

**Frameworks and Tools** : TensorFlow, Flask, Streamlit, Prometheus, Grafana, AWS EC2, Git, VS Code

**CERTIFICATIONS**

- Complete Python Bootcamp course, Udemy, July 2021
- Deep Learning for Computer Vision course, NPTEL - IIT Hyderabad, India, December 2020
- TensorFlow Developer Professional Certification, deeplearning.ai - Coursera, October 2020
- Deep Learning Specialization, deeplearning.ai - Coursera, August 2020
- Google IT Automation with Python Professional Certification, Google - Coursera, July 2020
- Programming with MATLAB, Vanderbilt University - Coursera, June 2020
- Machine Learning, Stanford University - Coursera, June 2020

**CO-CURRICULAR ACTIVITIES**

- Acted as the Joint Secretary (2020 to 2021) of MITRA - Madras Institute of Technology Robotics Association, Chennai
- Acted as the Team Head and Designer of 'Impetus' - Student Magazine Team, MIT, Chennai (2019-2021)
- Participated in Programmable Logic Controllers certification from Siemens Center of Excellence, MIT, Chennai (2019-2020)
- Completed First level certificate course in German language, conducted by Centre for International Relations, Anna University, Chennai (Grade: S) (2019-2020)
- Member of QCMIT - Quiz Club of MIT, Chennai (2019-2020)
- Attended five-day workshop / internship on Developing a Complete IoT Product, Altsense, Chennai (May 2019)
- Participated and won in multiple Line Follower events in Inter-Collegiate Symposiums at MIT (February 2019)

**CONFERENCES**

- Sathiya Murthi S, Pranav Balakrishnan, Roshan Abraham, V. Sathiesh Kumar, "Reinforcement based Automated Path Planning in Garden Environment using Depth – 'RAPiG-D'", presented at Second International Conference on Artificial Intelligence and Knowledge Processing, Woxsen University, Hyderabad, India. – July 2022

**ACHIEVEMENTS**

- Best Outgoing Student (2021-2022), Madras Institute of Technology, Anna University – June 2022
  - Star of the month award – Zummit Infolabs – January 2022
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