

Ram S Iyer

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Electronics Engineering

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Address: Calicut, Kerala, India - 673014

| Examination | University | Institute | Year | CPI / % |
|-----------------|------------|-------------------------|------|---------|
| Graduation | RGIPT Jais | RGIPT Jais | 2025 | 9.42 |
| Intermediate/+2 | CBSE Board | Bharathiya Vidya Bhavan | 2020 | 94.2 |
| Matriculation | CBSE Board | Bharathiya Vidya Bhavan | 2018 | 95.2 |

AREAS OF INTEREST

- Machine Learning, Deep Learning, Applied AI and Computer Vision
- Robotics and IoT
- Embedded Systems and VLSI Design

SCHOLASTIC ACHIEVEMENTS

- Currently **ranked 1st** amongst **19** students of Electronics Engineering department 2022
- Secured All India **Rank 22978** in JEE advanced among 150,000 candidates 2021
- Secured All India **Rank 28K** in JEE Mains (B. Tech) exam among 1.5 million candidates 2021
- Appeared in KVPY, NSEP, NSEC, NSEA 2019
- Received Certificate of Merit by CBSE for **top 0.1%** in **English communication** 2018
- Secured an **all-India 4th position in New Generation Ideation Contest Organized by HPCL** for best research idea Proposal 2023

RESEARCH WORK IN EXTERNAL COLLABORATION

• MACHINE LEARNING IN CORROSION STUDIES

Independent research (Manuscript Communicated)

- Worked on harnessing machine learning and virtual sample generation for corrosion studies of 2-alkyl benzimidazole scaffold-based corrosion inhibitors with an experimental validation.
- Conducted core study on Tabular GANs, Artificial neural networks, Regularization algorithms, Data pre-processing and optimization and application of machine learning in industry grade projects.

• NATIONAL INSTITUTE OF TECHNOLOGY – CALICUT

NIT Calicut

Guide : Dr Jayaraj P B (Manuscript Communicated)

May '23 – Aug '23

- Worked on developing a self-supervised deep learning framework for urine cytology detection using a contrastive learning approach
- Successfully developed a new variant of YOLO object detection algorithm by backbone alteration and SimCLR based contrastive learning algorithm implementation, achieving higher accuracy than SOTA technology
- Core study on Self-supervised learning, Contrastive learning, Data augmentation, CNN, Various computer vision algorithms

• INDIAN INSTITUTE OF SPACE SCIENCE AND TECHNOLOGY – TRIVANDRUM

IIST Trivandrum

Guide : Dr Deepak Mishra

Feb '23 – Present

- Working on small object detection and target detection on airborne hyperspectral image data
- Core study on Geographic Remote Sensing, Deep Learning, ANN, Computer Vision, Hyperspectral Image Processing

• INDIAN INSTITUTE OF TECHNOLOGY – INDORE

IIT Indore

Guide : Dr Vivek Kanhangad

Dec '22 – Apr '23

- Worked on biometrics, finger-print pore detection, deep learning MLPs
- Core study on Machine learning, Deep learning, CNN, Computer vision, Pattern recognition, Image processing

• TECH ANALOGY - SUMMER INTERNSHIP

Tech Analogy Pvt.Ltd

July '22 – Oct '22

- Electrical Intern
- Did summer internship on electric vehicle charging system and studied about DC fast charging, CHAdeMO protocol
- Gained valuable exposure towards industry work culture and teamwork

RESEARCH WORK IN ASSOCIATION WITH HOME INSTITUTION

• CRACK DETECTION IN DRILL BIT

Institute Funded Work

Aug '23 – Present

- Working on detection of cracks on the surface and interior of drill bits by leveraging the traits of IMX477 camera module, Nvidia Jetson Nano, Sensors and Image processing methodologies and analyzing the possibilities of computer vision algorithms for automated crack detection and degradation grade classification
- Studied to use Jetson Nano, IMX477 camera module, Image processing techniques

PROJECTS

• IoT FACE RECOGNITION AI ROBOT

Guide : Dr Sajal Agarwal

July '22 – Sep '22

- Core study on Arduino, Raspberry Pi, Networking protocols, PiCam module, Face recognition using dlib
- Designed a smart AI robot using dlib library and espeak module in python that can recognize human faces and do text to voices command conversions. Threshold analysis was conducted as part of the optimization process

• LOGIN AND REGISTRATION – MARKS RECORD MANAGEMENT SYSTEM

Mar '22

- Developed a system for storage and accessing of marks of students
- Implemented the concepts of files in python.
- Consisted of a Login and Registration system along with options to read, append or create new records

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Python
- **Software Packages:** OpenCV, MATLAB (Basic purpose), AutoCAD, Wireshark, Arduino IDE, ROS (Beginner level), Tina-TI, LaTeX
- **Libraries:** Scikit-Learn, Tensorflow, Pytorch, Pytorch Lightning, Matplotlib, Pandas, NumPy, SciPy, Seaborn, dlib
- **Micro-controller boards:** Arduino, Raspberry-Pi, Jetson nano

KEY COURSES

- **Electronics Engineering :** EMFT and Transmission Lines, Analog Circuits and Communication, Digital Electronics, Solid State Devices, Signals and Systems, IC Fabrication
- **Computer Science and Mathematics :** Data Structures and Algorithms, Computer Programming and Utilization, Calculus, Linear Algebra, Differential Equations, Probability and Statistics, Stochastic Processes
- **Online Certifications :**
 - Introduction to IoT and Embedded System Specialization – Coursera
 - Introduction to Electronics – Coursera
 - Deep Learning Specialization – Coursera
 - Generative Adversarial Networks (GANs) Specialization – Coursera

SOFT SKILLS

- Problem solving, Leadership, Team Management, communication skills
- Proficient in English, Hindi, Malayalam, Tamil

EXTRA CURRICULAR ACTIVITIES

- Secured **1st** position in **TRABOTRON Robotics Competition** organized by S&T RGIPT - Team Leader May '22
- Student DUGC representative
- Represented College in Sports fest (UDGHOSH) conducted by IIT Kanpur in Football