

# POLABATHULA SRIRAM

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## SUMMARY

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Proficient student with **12 months of internship experience** in C, Embedded C, Verilog, HDL, Linux, HTML and CSS with a strong foundation in both software and hardware development. Specialized in embedded systems, real-time software solutions, and hardware design, with a proven track record of successfully completing over **30+ projects**. Experienced in developing integrated systems that combine both hardware and software to solve complex, real-world problems. Eager to apply technical skills and practical experience in a challenging role to innovate and contribute.

## EXPERIENCE

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### PixelExpert Technology & Services Pvt Ltd

(Project Intern, NOV 2024 – NOV 2025)

- Worked on ADAS (Advanced Driver Assistance Systems) projects involving real-time vehicle detection, hazard identification, and optimization of object detection models for enhanced driving safety.
- Designed a GUI-based Cluster HMI to display alerts in the instrument cluster and implemented UART communication between Jetson Nano and IMXRT for reliable real-time data transfer.

### EY Global Delivery Services

(Intern, 18/12/2023 – 31/01/2024)

- Successfully completed **6 weeks** of the EY Global Delivery Services internship in collaboration with AICTE on Full Stack Web Development.

### CODSOFT

(Intern, 20/08/2023 – 20/09/2023)

- Successfully completed **4 weeks** of a virtual internship program in Web Development at CODSOFT.

## PROJECTS

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### FPGA-based Image Detection and Object Identifier with AI Voice for Blind People

- Focused on using Raspberry Pi and FPGA to develop an advanced VR headset that detects objects in front of blind users and translates this information into real-time auditory feedback.

### Jetson Nano Based Custom Live Image Training and Object Detection System

- Developed a real-time object detection system on Jetson Nano using custom datasets, deep learning (TensorFlow/PyTorch), and multi-class annotations via LabelImg.
- Integrated the trained model with the HMI to display road alerts (e.g., lane deviation, hazards) on the instrument cluster.

### Instrument Cluster HMI Design

- Built a real-time instrument-cluster HMI on the i.MX RT board using MCUXpresso, rendering vehicle alerts (obstacles, lane departure, status) directly on the display.
- Integrated UART communication with Jetson Nano to receive ADAS data and update the cluster UI smoothly with minimal latency.

### 3D Printed Prosthetic Bionic Arm

- Developed a 3D-printed bionic arm equipped with EMG sensors to detect muscle signals for precise control and enhanced functionality.

- Integrated a lightweight, durable exoskeleton design, allowing for improved comfort, extended wear time, and enhanced mobility for users

## Solar Tracking System

- Designed and implemented a solar tracking system to optimize solar panel efficiency by adjusting their position to follow the sun.

## SKILLS

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<b>Programming Languages:</b>	C, Embedded C.
<b>Operating Systems:</b>	Linux.
<b>Communication Protocols:</b>	UART, SPI, I <sup>2</sup> C, CAN.
<b>Hardware Languages:</b>	Verilog HDL.
<b>Tools:</b>	Keil C51, Proteus, MCUXpresso IDE, LabelImg, GUI Guider, Arduino IDE, Github, VS Code.
<b>Debuggers and Test Tools:</b>	Logic Analyzer, Multimeter, Serial Monitoring Tool (PuTTY).
<b>Networking:</b>	Understanding of networking fundamentals, including TCP/IP, OSI model, and LAN.
<b>Web Development:</b>	HTML, CSS.

## EDUCATION

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<b>Sathyabama Institute of Science and Technology</b>	2022 - 2025
Bachelor of Engineering (B.E) – Electronic and Communication Engineering	CGPA: 8.15

<b>Srinivas Institute of Engineering and Technology</b>	2018 - 2021
Diploma – Electronic and Communication Engineering	Percentage: 70.04

<b>Oxford Kennedy Convent High School</b>	2017 - 2018
Andhra Pradesh Board of Secondary Education 10th Class (X)	CGPA: 9.2

## ACHIEVEMENTS AND EXTRA-CURRICULAR ACTIVITIES

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- Secured second place and awarded a **cash prize** in the "Imagathon" image processing solution coding contest held on 16/07/2024 at Sathyabama University.
- Secured first place and won a gold medal in the state-level karate competition conducted by Kakinada School Dragon Karate Kufu Academic.

## CERTIFICATIONS

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- Successfully completed a **12-week course** on Digital Circuits by **NPTEL** (October 2024).  
**Credential ID:** NPTEL24EE147S952501118
- Successfully completed C programming by Udemy.
- Successfully completed IT Essentials (PC Hardware and Software Course) by CISCO.