

SARATH M

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*Seeking a challenging job in an organization where I can
follow my passion for Embedded Systems and Programming*

Experience

Embedded R&D Engineer, UNISYNC TECHNOLOGIES, Vyttila, Kerala.
(January 2015 - Present)

- Well versed in Embedded development using **C & Python**
- Hands on experience in **Linux SOC's**: BEAGLEBONE BLACK & RASPBERRY PI
- Experienced in multiple Programming Languages
- Experienced in Web and System based **GUI development**

Project Handled

Project Title GESTURE CONTROLLED ROBOT

Description An advanced control interface using Image Processing and Face Feature Extraction

Roles & Responsibilities :

- Interpret commands from Face Feature extraction using **Dlib** and **OpenCV**
- Development of a user-friendly GUI using **Qt 4**

Project Title VOICE BASED USER INTERFACE AND FACE RECOGNITION IN RASPBERRY PI

Description A Modern user interface base on Sound and Face Recognition

Roles & Responsibilities :

- Implemented a **Faced Recognition** feature using **Haar Cascades** in **OpenCV** in Raspberry Pi
- Developed library to interpret **Audio commands** and sounds on RPi using **Smacpy** library

Project Title PID BASED ADAPTIVE VOLTAGE CONTROL USING PLC AND PIC

Description An Adaptive AC voltage control mechanism using PID

Roles & Responsibilities :

- Interface **PIC12F675** with Delta **PLC** (Programmable Logic Controller)
- Develop a PWM based AC voltage controller using Thyristor

Project Title **PiMOTe**

Description A wireless control and monitoring system based on the latest MQTT protocol

Roles & Responsibilities :

- Testing and Development of MQTT client and broker architecture
- Development of a web based Control Panel

Project Title **MONYLITIC**

Description A **web based** Remote **System Monitoring** platform

Roles & Responsibilities :

- Configuring the environment on **Raspberry Pi, BeagleBone Black**
- Configuration and Administration of **Amazon Web Server**
- Development of responsive **mobile friendly web application**

Education

2014 **Course in Embedded Systems**, *Vector India Institute*, Bangalore, Karnataka.

2010–2014 **B.Tech in Electronics and Communication**, *Govt. College of Engineering Cherthala*, COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY, Kerala.

2010 **12th Grade**, *Talent Public School*, CBSE, Kerala.

2008 **10th Grade**, *Talent Public School*, CBSE, Kerala.

Academic Projects

- **Major Project:** Hexapod Robot For Agricultural Application
It is a versatile **six legged robot** optimised for uneven terrain. The applications include planting crops, weed detection and sensor data collection.
- **Minor Project:** Godown Automation
It was an attempt to automate a godown by including sensor based smart lighting and an anti-theft alarm.

Technical skills

- Microcontroller's
- **ARM7** (LPC2148, LPC2138)
 - **PIC** controllers
 - **Raspberry Pi**
 - BeagleBone Black
 - 8051
 - Arduino

- Signal Processing
 - o Image Processing using **OpenCV** (C++ & Python Interface)
 - o Sound processing using Smacpy library (Python)
 - o Face Feature Extractions using **Dlib** library

- Other Hardware
 - o PROGRAMMABLE LOGIC CONTROLLER'S (PLC)
 - o Sim900 GSM Modem
 - o RFID reader

- Programming **C, C++, Python, SQL, git**

- GUI Developement
 - o GUI developement using **LabVIEW**
 - o **Web Development** Using Python FLASK framework
 - o System **GUI Application Development** using Python PYQT Library

- Protocol's
 - o RS-232, I2C, SPI, **Modbus ASCII, MQTT**

- Other Platform's
 - o **TCP** and **UDP** Socket Programming
 - o **Linux** System Programming
 - Setting Cron Jobs
 - Interprocess Communication
 - Multi-threading
 - Signal Handling
 - o **Cloud Computation** using AMAZON WEB SERVICES

--- **Achievements**

Professional Achievements :

- 2015 **Started** the **Embedded Systems wing** of Unisync Technologies.
- 2015 Reduced **monthly expenditure** on Web Server .

Other Achievements :

- 2014 The Project "**Hexapod**" was selected as **Top 13** in the **Finals** in **State Level Project Competition: SRISHTI 2014** held at SAINTGITS College, Kottayam
- 2005 Awarded **Black Belt** in Shito-Ryu style of **Karate**.

--- **Soft Skills**

- o Passionate Programmer
- o Good Managerial and Communication Skills
- o Fast Learner
- o Energetic and Hardworking individual