

JOYEL JOSEPH JAMES

ROBOTICS ENGINEER | TRAINER | COORDINATOR



Profile Description

An honest, flexible, and adaptable engineering graduate seeking an opportunity to contribute my skills and grow with the organization. Eager to learn, dependable in teamwork, and committed to both personal and professional development.

Experience

Robotics Trainer at Unique World Robotics

August 2026 – Present

- Teaching & Classroom Management: Deliver engaging AI & Robotics sessions to K-12 students, following the prescribed curriculum, in both online and offline formats, while keeping the classroom disciplined, participative, and inclusive across age groups.
- Content Development: Design lesson plans, hands-on activities, projects, and interactive learning materials, and stay current with the latest trends in AI, robotics, and teaching methods.
- Student Progress & Project Mentoring: Monitor and assess student performance, give feedback, and support project-based learning that builds creativity, problem-solving, and innovation.
- Outreach & Competition Training: Run public workshops, demos, and outreach programs, and prepare student teams for competitions such as WRO, FLL, FTC, FGC, FRC, Codeavour, and NASA Space Apps Challenge.

Technical Coordinator at FLP Labs by MEC Robotics

March 2025 – June 2026

- Training & Mentoring: Planned and conducted training for 15+ Technical Executives and mentored them in building projects for numerous competitions.
- Reporting & Documentation: Prepared the documents needed to report on the work done by Technical Executives, using Google Drive, Google Sheets, and Microsoft Office.
- HR Collaboration: Worked with HR to streamline the recruitment process for technical roles.
- Presentations & Workshops: Delivered presentations and workshops on various topics to a wide range of audiences.

Technical Executive at FLP Labs by MEC Robotics

July 2024 – February 2025

- Robotics Teaching & Project Support: Taught robotics to students in grades 1-9 and 11 using Scratch, mBlock, and dedicated DIY kits, and supported them in building competition projects with Arduino, ESP32, and sensor integration.
- Reporting & Stakeholder Response: Submitted reports on the various responsibilities fulfilled and took action on concerns raised by school authorities and students.

R&D Intern at FLP Labs by MEC Robotics

February 2024 – April 2024

- Testing and verifying 40+ Arduino projects.
- Documentation was made for future references.

Education

B. Tech in Robotics and Automation with Minor in Networking (2024)

Saintgits College of Engineering,
Kottayam
CGPA: 7.98

Higher Secondary (2020) – 92%

SSLC (2018) – 91%

St. Berchmans H.S.S, Changanacherry

Details

Email

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LinkedIn

[joyel-i2i](#)

Certifications

Advanced Automation System Professional (2026)

IPCS Global, Thrissur

Projects

Smart Traffic System

- Initially planned with a Raspberry Pi and Camera Module for AI-based detection, the project was redesigned using a simpler sensor-based approach with ESP32 boards.
- Multiple ESP32 units communicated over inbuilt Wi-Fi, with each lane using multiple sensors to detect congestion and assign priority to the most jammed lane.
- The system included provision to detect emergency service vehicles and grant them priority clearance through traffic.

Automatic Refuelling System

- A 5dof robotic arm driven by digital servo motors controlled by an Arduino UNO through a pca9685 breakout board.
- The main computations are done (computer vision/detection, kinematics calculation, pump controls) are done using a raspberry Pi with ROS installed, which then controls the two Arduino (one for arm and one for pump system).
- Custom 3D models were built using Solidworks.

Smart Car Parking System

- The car slots are labelled occupied when an object is sensed using ultrasonic sensor within the range.
- The number of available slots is displayed on an LCD display and the whole unit was controlled using Arduino Uno.
- The project was initially fully simulated in Tinkercad.

Did 40+ Arduino projects during the internship @ MEC Robotics.

Skills

Software

- PLC
- Solidwoks
- SCADA
- Microsoft Office
- Python
- Arduino IDE

Hardware

- xArm 5 Robotic Arm
- Crealty Ender 3 S1 Pro
- Raspberry Pi 4
- Sensor integration
- Siemens PLC

Others

- Leadership
- Planning
- Eagerness to learn
- Empathetic
- Presentation

*References available upon request.