

JOYAL MICHAEL PUTHUR

Robotics Deployment & Integration Engineer

Open to relocation & travel | 27joyal@gmail.com | +1 (845) 806-7816 | [linkedin.com/in/joyal-puthur](https://www.linkedin.com/in/joyal-puthur) | joyalputhur.in

SUMMARY

Robotics deployment engineer who commissions, tests, and debugs automation systems at scale across live customer sites, owning on-site bring-up, root-cause analysis, and the feedback loop back to engineering. Also designs hardware, having taken multi-DOF robots from CAD to working prototypes.

EXPERIENCE

Deployment Engineer (Contract)

Jan 2026 – Present

Amazon Robotics, Boston, MA

- Serve as on-site engineer commissioning and bringing up a range of automation systems at scale across Amazon fulfillment centers, owning mechanical, electrical, and controls readiness from installation through validation
- Debug mechanical and systems failures through structured root-cause analysis, sustaining ~99% operational uptime and eliminating recurring fault modes
- Communicate field findings back to hardware, controls, and software teams, feeding deployment data into design to improve product performance

Robotics Deployment Engineer

Feb 2025 – Jan 2026

Humro Robotics, Fontana, CA · promoted from Deployment Engineer Intern

- Initiated a hardware design change for AMRs over-sensitive to uneven warehouse floors, reducing caster-wheel diameter to cut sensitivity to ground deformation and improve navigation reliability
- Owned SLAM-based navigation bring-up for fleets of 3 to 5 collaborative AMRs coordinating pallet handling and logistics, generating and tuning the maps that enabled reliable autonomous operation at multiple sites
- Led live customer demonstrations end-to-end, coordinating hardware and software teams under pressure and translating customer feedback into product improvements
- Rebuilt the vision-calibration workflow, combining mechanical alignment and image tuning to raise first-pass calibration success from 76% to 91% and sharply cut day-one deployment delays
- Validated Fleet Management Software logic against edge cases, verifying correct order routing and application behavior

PROJECTS

Quadruped Robot: Autonomous LiDAR Navigation

Columbia · 2024

- Designed an 8-DOF quadruped end-to-end, modeling a four-link leg mechanism and structurally optimized chassis in SolidWorks, then fabricating, wiring, and integrating the full mechatronic assembly on a Raspberry Pi
- Closed the navigation loop with 20 Hz reactive obstacle avoidance, using 360° LiDAR feedback to correct heading in real time and navigate autonomously at 0.2 m/s

Soft Robot Evolution: Evolved Voxel Robots

Columbia · 2024

- Built a simulation that evolves voxel-based soft robots, applying evolutionary computation to co-optimize body morphology and actuation for locomotion
- Implemented the simulation and physics engine in C++ for performance, evaluating candidate designs across generations

Cable-Driven Neck Brace: Wearable Robotics

Columbia · 2024

- Designed the head brace for a cable-driven neck brace, the rigid headpiece that anchors the actuation cables and transmits their force to the neck, modeled in SolidWorks and 3D-printed for prototyping
- Engineered a custom PCB for power and encoder distribution, integrating motors and sensors into a closed-loop system

SKILLS

Programming: C++, Python, Bash

Robotics & Software: ROS 2, SLAM, Sensor Fusion, Computer Vision & Calibration, Linux, Git, Test Automation, TCP/IP, Jira

Embedded & Electronics: Custom PCB Design, Microcontrollers, Sensor Integration (LiDAR · Cameras · IMU)

Mechanical Design: SolidWorks (CSWP), Test-Fixture Design, FMEA, Root-Cause Analysis, 3D Printing / Rapid Prototyping

EDUCATION

M.S. Mechanical Engineering (Robotics & Control), Columbia University

Aug 2023 – Dec 2024

Coursework: Control Theory · Mechatronics & Embedded Systems · Evolutionary Computation

B.E. Mechanical Engineering, University of Mumbai

Jul 2020 – Jun 2023

Coursework: Product Design · Finite Element Analysis · Controls · Electronics · CAD/CAM

CERTIFICATIONS

Certifications: Certified SolidWorks Professional (CSWP) · OSHA Safety Certification · Lockout/Tagout (LOTO)