Your Firstname Your Lastname

Robotics & Machine Learning Engineer

City, United Kingdom

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Summary

Robotics & ML engineer focused on control, motion, and perception. Experienced building data pipelines and training neural networks for inverse kinematics, calibration and forecasting; comfortable across Python/PyTorch/ROS and mechatronics. Seeking roles in robotics, autonomous systems, or ML for controls where I can deliver reliable, testable systems end-to-end.

Core Skills

Programming	Python, C/C++, MATLAB
ML / DL	PyTorch, scikit-learn, data pipelines, hyperparameter tuning (Ray Tune), MLOps basics
Robotics	Kinematics/Dynamics, Control (PID/LQR), ROS, simulation, calibration
Tooling	Git, Linux, Docker, VS Code, NumPy/Pandas, Jupyter
Hardware	Microcontrollers, basic electronics, 3D printing, CAD (SolidWorks)

Education

2024 — **MSc Robotics**, *University Name*, City, UK
Key Modules: Control Systems, Robot Dynamics, ML, Motion Planning.
Highlights:
- Designed and tuned PID/LQR controllers for a 3-DOF arm; closed-loop error reduced by 18%.
- Built neural IK with PyTorch; reached <4% MAPE on real robot data.

2023 — **BEng Mechanical Engineering (1st/2:1)**, *University Name*, City, UK
Key Modules: Mechatronics, CAD, Systems & Control, Thermofluids.
Highlights:
- Led autonomous rover project (ROS + SLAM); obstacle avoidance at $10\,\mathrm{Hz}$ on embedded compute.
- Team design project improved component MTBF by 20% via FMECA-driven redesign.

Selected Projects

Neural Inverse Kinematics (PyTorch) — Estimated joint angles from (x, y, z) using an MLP; exported for real-time inference.
- Tuned with Ray Tune; best model ↓MAPE to 3.7% on held-out trajectories.
- Wrote reproducible training scripts (configurable seeds, dataset splits, metrics).

Calibration & Control Tooling — Toolkit to characterise actuator backlash and auto-tune PID gains.
- Reduced steady-state error by 25%; generated PDF reports from logged experiments.
- Implemented unit/integration tests; CLI packaging for lab reuse.

Autonomous Rover (ROS) — Raspberry Pi + lidar rover with mapping and waypoint following.
- Implemented SLAM; validated in Gazebo before hardware bring-up.
- Designed 3D-printed chassis; CAD/BOM released on GitHub.

Experience

2024 — **Robotics Intern**, *Company Name*, City, UK
- Prototyped vision-assisted pick-and-place; boosted grasp success from 72% to 88%.
- Containerised dev env (Docker) and CI tests; cut onboarding time by 50%.

2022–2023 — **Undergraduate Research Assistant**, *University Lab*, City, UK
- Analysed arm calibration datasets; identified bias sources and proposed compensation.
- Co-authored internal tech report; presented results to cross-disciplinary team.

Certifications

2024	Deep Learning Specialization (Coursera)
2023	MATLAB Associate Certification

Awards & Achievements

2023	Winner — Robotics Hackathon (Uni)
2022	Dean's List / Scholarship (if applicable)

Volunteering & Societies

Robotics Society	Built competition bots; mentored first-years on ROS basics.
STEM Outreach	Delivered robotics workshops to schools (KS4/KS5).

Hobbies

Guitar (signal chains, DSP pedals), 3D printing (rapid prototyping), distance running.