

DEV KUMAR – Robotics & AI Engineer

• Paris, France • contact@dev-kumar.com • +1 628 600-9867 • dev-kumar.com/projects (+20 projects) • linkedin.com/in/devkumar-robotics-ai-engineer

SUMMARY

Arts et Métiers ParisTech Engineer (M.Eng equivalent, available August 2026) specializing in **Mechatronics, Robotics & AI**. Combining hands-on robotics experience with applied ML and data engineering, building toward **AI-driven robotics engineering**. Seeking a **VIE** or an international opportunity.

PROFESSIONAL EXPERIENCE

AMJE – Junior Engineering Consultancy Project-Based Contract – R&D Engineer

Paris, France

September 2024 – Present

Heidelberg Materials (Cement Plant): Engineered 3 industrial sampling system concepts (pneumatic, rotary, mechanical probe) for cement truck sampling addressing flow dynamics, dust control, and explosion risk mitigation. Delivered full implementation roadmap **achieving a 60% cost reduction vs. existing market solutions**.

FALC Armurerie (Shooting Range): Designed and delivered a complete mechatronic target carrier system including custom PCB, 3D-printed enclosure, LiDAR/RST control and HMI, enabling the client to **resell the product to partner shooting ranges at a 250% margin**.

AIR LIQUIDE

Paris, France

Internship – Product Owner (AI products)

September 2025 – February 2026

Delivered Power BI **Scrum dashboard (-30% meeting time)**; led AI product delivery; managed Agile sprints in Azure DevOps across multi-team environment.

UNITED MACHINING SOLUTIONS

Geneva, Switzerland

Internship – ML Engineer & Data Analyst

July 2025 – August 2025

Built LLM-based pricing intelligence pipeline across 15+ markets **cutting processing time by 80%** and identifying pricing misalignments that could **grow revenue by 1.5x** in a key target country; analysis directly adopted by the Geneva commercial team.

ROVIAL SPACE

Paris, France

Internship – Robotics & AI Engineer

January 2025 – June 2025

Full-state feedback + Kalman filtering in MATLAB/Simulink; ML-accelerated inverse kinematics + real-time PyTorch voice recognition via ROS/Linux, achieving **1.8x faster command-to-execution** cycle vs. baseline prototype.

EDUCATION

ÉCOLE NATIONALE SUPÉRIEURE DES ARTS ET MÉTIERS

Paris, France

Engineering Degree – Master's equivalent in Mechatronics, Robotics & AI

2022 – 2026

Relevant Coursework: Control Systems, Solid mechanics, Fluid Mechanics, Machine Learning, Deep Learning.

Key Project: Robot UR7e — **Reinforcement Learning & Kinematics & Multivariable LQR Control (Python, Matlab, ROS 2)**
Mathematical modeling (DH parameters, Inverse Kinematics, Lagrangian dynamics), Extended Kalman Filtering (EKF) for state estimation (sensor-weighted), RL-based IK solver, LQR controller design & tuning, Deep RL training and validated in ROS2 simulation then deployed and tested on physical hardware in lab.

UNIVERSITÉ SORBONNE PARIS NORD

Paris, France

University Diploma of Technology in Electrical Engineering & Computer Science

2020 – 2022

Relevant Coursework: Analog & Digital Electronics, Automation & Control, Embedded systems, Microcontrollers, Power Electronics.

LYCÉE POLYVALENT GUSTAVE MONOD

Engbien-les-Bains, France

Selective, intensive pre-engineering program (CPGE PCSI)

2018 – 2019

Relevant Coursework: vector spaces, Taylor / Fourier series, Maxwell equations, Runge-Kutta, Jacobian Matrix & Manipulability Analysis, Lagrangian Dynamics & Newton-Euler Recursive Dynamics, Quaternions

TECHNICAL SKILLS

MECHATRONICS & CONTROL - State-Space Control, LQR, RST, H-infinity, PID, Continuous & Discrete-Time Systems, Extended Kalman Filter (EKF), Bond Graph Modeling, Denavit-Hartenberg (DH), Forward & Inverse Kinematics (FK/IK), Lagrangian Dynamics, Newton-Raphson Optimization, Monte Carlo Methods, dSPACE, MATLAB/Simulink, 20-SIM (Bond Graph Simulation)

ROBOTICS & SIMULATION - ROS2, Gazebo, CATIA V5/3DX, Abaqus, STAR CCM+ (CFD), Sensor Fusion, Motion Control, PCB Design, Embedded Systems, Microcontrollers, SPI, UART, I2C, LiDAR

AI & MACHINE LEARNING - Reinforcement Learning (RL), Deep Learning, CNN (Keras/PyTorch), Computer Vision, TensorFlow, Scikit-learn, Gradient Descent, Pandas, NumPy, ICP Algorithm, Optical Flow (KLT/Lucas-Kanade), 3D Pose (PnP), DLT Calibration Algorithm

PROGRAMMING - Python, C/C++, MATLAB, Bash/Linux, Arduino, VBA, SQL

INDUSTRIAL & DIGITAL TOOLS – Power BI, Agile-Scrum, Microsoft Office, Pro-Face (HMI), Ladder, Grafcet (Sequential Function Chart)

LANGUAGES – French (Native), English (C1-C2)