

Raimon Pujol Vila

Robotics Systems Engineer

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Seeking Summer 2027 internship in robotics, ideally on humanoid or field robotics.

SUMMARY

CMU Robotics Institute MRSD student with 4 years in automotive industry, hardware and product design, system integration, and OEM program delivery. Systems engineer on CMU Moon Miners (NASA Lunabotics); currently working on a industry-sponsored video-to-policy humanoid robot capstone. Interests: humanoids, space robotics, climate, and wildfire mitigation technologies.

EDUCATION

Carnegie Mellon University, Robotics Institute

May 2028

Master of Science in Robotic Systems Development (MRSD) · Pittsburgh, PA

Focus: autonomy, control, systems engineering, robot learning. Coursework: Systems Engineering (16-650); Robot Mobility Air, Land and Sea (16-665); Robot Autonomy (16-662); Robot Learning (16-831) Manipulation, Estimation, & Control (16-642);

King's College London

June 2021

Bachelor of Engineering (Hons) in Electrical Engineering & Management · London, UK

First Class Honours. Teaching Assistant, Electronics Circuits (EC1/EC2), 2020-2021.

EXPERIENCE

Idneo Technologies

February 2022 - Present

Electrical Engineer -> System Architect -> Technical Business Development and Project Manager (West Coast) · Barcelona / San Francisco

- Architected 4+ embedded electromechanical systems from requirements to working prototype, defining sensing, actuation, compute, and power subsystems and converging mechanical, electronics, firmware, and design teams on shared interfaces.
- Designed custom ESP32 control boards and wrote C/C++/Python firmware for sensor acquisition and actuator control; brought up PoC on NXP i.MX 6 and Renesas validation boards.
- Delivered 5 full-scale electromechanical furniture prototypes for NEOM (Saudi Arabia) in 1 month, leading a 5-person mechanical, electronics, software, and design team; air-freighted, integrated, and commissioned all units on site for the Saudi Crown Prince.
- Managed 50+ OEM engagements on the West Coast (Waymo, Zoox, Zipline, Cruise, Cobot, Ford, Lucid, Rivian, Karma, etc.), leading RFQ responses, requirements definition, and program scoping across engineering and commercial teams.
- Won \$25M+ in awarded contracts within 18 months, spanning volume manufacturing and NRE, by translating OEM system requirements into technical proposals and pricing.

SKILLS

Robotics: ROS 2, LiDAR, OpenCV, NVIDIA Jetson, imitation learning / VLA, systems engineering

Electronics: analog/digital circuit design, schematic capture and PCB layout (KiCad), SPICE, SMT/through-hole soldering, oscilloscope

Embedded: C/C++, Python, ESP32, NXP i.MX 6, Renesas, I2C/SPI/UART, OTA · Mechanical: SolidWorks, Fusion 360, Onshape

Languages: English, Spanish, Catalan (native); French (beginner)

SELECTED PROJECTS

CMU MRSD Capstone · Nissan

September 2026 - Present

Electrical / Embedded Lead and Project Manager · Pittsburgh, PA

- Teaching a Unitree G1 EDU a Nissan pre-trim pick-and-place task (interior trim / air duct, sub-3 kg) from factory video via VLA / imitation learning within a 5-person MRSD team.
- Own robot-side electrical/embedded design: power, sensing, compute interfaces, and G1 hardware bring-up.
- Manage 3 workstreams (VLA training, video curation, real-robot evaluation) across a 12-month program with Nissan as industry sponsor.
- Deliver a live G1 demo of a policy pre-trained on factory video by November 2027 and a feasibility verdict on video vs teleoperation data.

CMU Moon Miners (NASA Lunabotics)

September 2025 - Present

Systems Engineer · Pittsburgh, PA

- On the systems team for CMU's NASA Lunabotics lunar mining rover (cmu-moon-miners.com): requirements documentation, budget tracking, and coordination across mechanical, software, avionics, and outreach.
- Contributed to the Project Management Plan and system requirements toward PDR and the Systems Engineering Paper.
- Map NASA Lunabotics competition requirements onto the rover so the design stays compliant with the rules.

Helioss

July 2023 - Present

Founder & CTO · Independent (continuing while at CMU) - more information on my website

- Building Helioss (Helicopter Ionized Suppression System): helicopter-mounted ionized delivery of Ecofire wildfire suppressant.
- Built a functional H1 prototype end to end (mechanical, electrical, firmware), ground-tested; filed patent WO2024/261364 A1 (PCT/ES2024/070378).