

CARLA ZOU YIN RODRÍGUEZ RUBIO



About me

"I define myself as a **creative and proactive individual**, constantly striving for self-improvement. I embrace new projects with enthusiasm and am ready to tackle both academic and non-academic challenges."

Languages

- **Spanish** – native level
- **Catalan** – native level
- **English** – C1 level (advanced / CAE, 2021)
- **German** – A1 level (beginner)
- **Chinese** – A2 level (beginner / HSK 2, 2020)

Contact

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"I am a **highly motivated final-year electronic engineering student** with a strong interest in AI, robotics, and human-computer interaction. Since last year, I have been working as an IT research engineer focusing on IoT and software/hardware development for Precision Livestock Farming (PLF) technologies. In addition, I have contributed to R&D initiatives in human-robot interaction, computer vision, bioimaging analysis, and animal welfare, culminating in a first-author publication at a major international conference. I am now excited to explore new research engineering opportunities that will further enhance my skills and positively impact society."

Work experience

Mobile Robotics Research Intern | IRI (CSIC-UPC) (September 2024 - present). Conducting my bachelor's thesis in the Institut de Robòtica i Informàtica Industrial (IRI, CSIC-UPC).

Applied Mathematics & AI Intern (AMGEN® Scholar) | Institut Pasteur (July 2024 – September 2024). Two-month research internship (Amgen Scholars Programme) at the Institut Pasteur. Collaborating in the Biological Image Analysis Unit on the project "Deep Wavelet Detector: enhancing detection and segmentation of neurons in fluorescent microscopy images of *Hydra Vulgaris*", under the supervision of PhD Thibault Lagache.

IT Research Engineer | CEALVET (June 2023 - present). Developing a new product based on an IoT sensor oriented towards animal welfare in the context of Precision Livestock Farming (PLF) for broiler chickens. Design, research, and implementation of the HW & SW solution. Conducted research on several stress indicators and published an abstract in the XVI European Poultry Conference 2024. This project is part of a European-funded initiative.

Robotics Research Intern | La Salle Campus Barcelona - Universitat Ramon Llull (July 2022 – present). Developing a novel human gaze estimation algorithm based on computer vision and algebraic techniques. Conducted research involving 33 participants and published a first-author paper at the 16th International Conference on Social Robotics (ICSR 2024).

Education

Degree in Electronics Engineering – Minor in Robotics (2021 - present). La Salle Campus Barcelona – Ramon Llull University.

Relevant completed coursework: D/A Electronics, Physics, Computer Architecture and MCUs, Calculus, Algebra, Probability, Signal Theory, LAN, Sensors, ICs, RF, OS, AI, Control and Navigation Systems, & ROS.

Coding Languages

- ➡ C / Java / Python
- ➡ C++ / TeX / Assembly
- ➡ Embedded C / MATLAB

Extracurriculars

- ➡ **Federated table tennis player** in CT Barcino team (2022 - 2024).
- ➡ **Piano studies** (2009 - 2019).
- ➡ **Staff Member of MAGMA, organizer of the international research fair called "Exporecerca Jove"** (2021 - present).

References

PhD Thibault Lagache | Institut Pasteur:
thibault.lagache@pasteur.fr

PhD Gerard Ginovart | CEALVET:
gerardgp@cealvet.es

PhD Alejandro González | La Salle BCN:
a.gonzalez@salle.url.edu

LinkedIn Profile

<https://www.linkedin.com/in/carla-rodriguez-rubio/>

ORCID Profile

<https://orcid.org/0009-0007-8333-0900>

Publications

- ➡ Rodríguez-Rubio, C. Z. Y., Caro-Via, S., Yebra-Berenguer, G., & González, A. (2024). What are you looking at? A preliminary vision-based gaze estimation algorithm for humanoid robots in educational environments. In *Social Robotics* (forthcoming), ICSR 2024. Lecture Notes in Computer Science. Springer.
- ➡ Rodríguez-Rubio, C. Z. Y. et al. (2024). Deep Wavelet Detector: enhancing segmentation of neurons in fluorescent images of Hydra Vulgaris. In *Amgen Scholars Programme 2024. Abstract Booklet* (p. 10). Amgen Scholars Programme.
- ➡ Mediterranean Poultry Summit. (2024). *Book of abstracts* (online). XVI European Poultry Conference 2024 (Valencia - Spain).
- ➡ Rodríguez Rubio, C. Z. Y. (2022). Creació de sistemes automàtics anti COVID-19 [JD]. *Revista de Tecnologia*, 10, 35–37.
<https://doi.org/10.2436/20.2004.01.38>

Summer Training Courses

- ➡ **"Robotics & AI Summer School 2022"**, taught by IRI - Institut de Robòtica i Informàtica Industrial, CSIC-UPC (July 4-6, 2022).
- ➡ **"Intelligent transportation systems and autonomous vehicles: advances in new systems and user modeling"**, taught by the university UNED (July 11-13, 2022) (1,0 ECTS credit).

Awards and Honors

- ➡ Received **honors** on the **following subjects**: RF Technologies, Electronic Measurements Lab, Electromagnetic Propagation, Operating Systems, Transmission Systems and Signals, Physics, Intro to Robotics, Calculus, Linear Algebra, Basic Electronics, Intro to Computers, Programming Methodology and Technology, Design and Usability I, Business and Engineering.
- ➡ **Winner at the hackathon La Salle Future Lab 2022**. Received an award to participate at the entrepreneurship event TDD4Future2022 and €600 of cash.
- ➡ Received **one of the five merit-based scholarships** "Be an engineer" from the university (2021-2022).
- ➡ Received the following awards in honor of my **baccalaureate final paper**, an **engineering project aimed at fighting against the spread of COVID-19** (2021):
 - Second prize Catalan Society of Technology.
 - Second prize in the XV Pompeu Fabra University Prize for Research Work in Engineering and Applied Mathematics.
 - Honorary mention in the field of Technology of the 18th edition of the Argó Awards, organized by the university UAB.
 - IQS Distinction in the 20th edition of the Ramon Llull Awards for Baccalaureate Research Projects.