Fernando Estévez Casado

AI & Robotics R&D Engineer

London, United Kingdom

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Professional Summary

AI and robotics researcher with **7+ years of experience** developing advanced machine learning algorithms and robotic systems from research to deployment. Recently worked on **robot learning** and **user modelling** with applications in assistive technologies. Proven record of delivering high-impact research outcomes across **Imperial College London** and previous roles. Experienced in mentoring students and **coordinating lab activities**, and adept at working in **cross-functional, international teams**, integrating hardware and software to solve complex problems. Recognised for **clear communication** of complex ideas through teaching, public engagement, and showcasing live demonstrations to industry partners. Now seeking to apply expertise to industry R&D roles in robotics, AI, or advanced technology.

Key Skills

Programming	Python, C++, C, C#, R, Java, Matlab
AI & ML	Generative AI (diffusion, VAEs), imitation learning, federated learning, computer vision, PyTorch, TensorFlow
Robotics	ROS/ROS 2, perception, navigation, manipulation, shared control, sensor fusion, hardware integration, 3D modelling/printing
DevOps	Git, Docker, Bash, virtual environments (conda/mamba, venv), basic networking
Languages	Spanish (native), Galician (native), English (C1), Portuguese (B2)

Professional Experience

Research Associate
London, United Kingdom

IMPERIAL COLLEGE LONDON – PERSONAL ROBOTICS LAB
Mar 2023 – Present

- Developed **user-centred ML** solutions to personalise assistive robot behaviours, improving **trust and usability** in human–robot collaboration.
- Designed systems for **intention prediction** and **user modelling** using multi-modal inputs (eye gaze, semantic maps, behavioural cues).
- Built a robotic wheelchair with dual arms and implemented behaviours for **bimanual manipulation** and **autonomous navigation**.
- Acted as **lab manager**, coordinating inventory, safety checks, and maintenance, while **mentoring Master's students** on their final projects.
- Contributed to **UKRI-funded multi-institution projects**, collaborating with **multidisciplinary teams** (engineers, psychologists, end users).

Visiting Lecturer
Lugo, Spain

UNIVERSITY OF SANTIAGO DE COMPOSTELA – POLYTECHNIC SCHOOL OF ENGINEERING
Sep 2022 - Mar 2023

- Prepared teaching materials and delivered **180+ hours of lectures and lab sessions** in programming, machine learning, and expert systems.
- Supervised 2 undergraduate theses in robotics and ML, both of which achieved **top marks** (equivalent to first-class distinction).

Doctoral Researcher
Santiago de Compostela, Spain

UNIVERSITY OF SANTIAGO DE COMPOSTELA – CiTIUS
Oct 2018 - Nov 2022

- Designed **continual federated learning algorithms** robust to heterogeneity and concept drift, improving adaptability in distributed AI systems.
- Applied research to **indoor navigation** and **human activity recognition**, achieving high accuracy while preserving data privacy.
- Published **5 peer-reviewed papers** in high-impact journals and conferences (Q1 and top-tier venues).
- Delivered **230+ hours of teaching support** in ML, expert systems, and distributed computing, recognised for **excellence in student feedback**.
- Completed a **4-month research visit to Imperial College**, leading to results on privacy-preserving wheelchair navigation published in a top international robotics conference.

Internships
Santiago / A Coruña, Spain

2016 - 2018

- Improved smartphone-based **indoor positioning** (Situm Technologies / University of A Coruña, 2018).
- Built an **online data management platform** for forest fire prevention programmes (Bahia Software, 2017).
- Developed a **biometric data collection** framework (face verification) for Android devices (CiTIUS, 2016).

Education

PhD in Computer Science (ML)
Santiago de Compostela, Spain

UNIVERSITY OF SANTIAGO DE COMPOSTELA
Oct 2018 - Nov 2022

- Graduated with honours (highest grade, *cum laude*). Funded by Spain's most competitive government fellowship for doctoral studies.

MSc in Artificial Intelligence Research
Santander / Santiago, Spain

MENÉNDEZ PELAYO INTERNATIONAL UNIVERSITY
Sep 2017 - Aug 2018

- Specialisation in Data Science and Machine Learning. Graduated with GPA 9.6/10 (first-class equivalent).

BSc in Computer Science
Santiago de Compostela, Spain

UNIVERSITY OF SANTIAGO DE COMPOSTELA
Sep 2013 - Jul 2017

- Graduated with GPA 8.7/10 (first-class equivalent). Received Best Academic Record and Best Thesis Award.

Awards & Honours

2024	**RSS Pioneer**, Robotics: Science and Systems (RSS) conference	*Delft, Netherlands*
2024	**Postdoc of the Month**, Imperial College London – Postdoc and Fellows Development Centre	*London, UK*
2022	**Best Science Communicator**, University of Santiago de Compostela – Three Minute Thesis (3MT) contest	*Santiago, Spain*
2020	**Best Presentation Award**, European Conference on Artificial Intelligence (ECAI), Doctoral Consortium	*Santiago, Spain*

Selected Publications

2025	Gandhi, R., Casado, F. E., & Demiris, Y. **Toward Shared Control for Bimanual Manipulation on a Robotic Wheelchair**. *IEEE Intl. Conf. on Robot and Human Interactive Communication (ROMAN)*; proceedings due.	Video
2025	Quesada, R. C., Casado, F. E., & Demiris, Y. **An Integrated 3D Eye-Gaze Tracking Framework for Assessing Trust in Human–Robot Interaction.** *ACM Transactions on Human-Robot Interaction*, *14*(3), 1-28.	Paper | Video
2023	Casado, F. E., Lema, D., et al. **Ensemble and Continual Federated Learning for Classification Tasks.** *Machine Learning*. *112*(9), 3413-3453.	Paper
2022	Casado, F. E., & Demiris, Y. **Federated Learning from Demonstration for Active Assistance to Smart Wheelchair Users.** *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 9326-9331.	Paper | Video
2022	Criado, M. F., Casado, F. E., et al. **Non-IID data and Continual Learning processes in Federated Learning: A long road ahead.** *Information Fusion*, *88*, 263-280.	Paper