

Juan José Herrera Aranda



Personal Information

Full name: Juan José Herrera Aranda

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Nationality: Spanish

Birth date: 1999/07/29

Links: [Personal website](#), [Google Scholar](#), [LinkedIn](#)

Professional Summary

PhD candidate in Computer Science at the University of Granada, specialising in **zero-shot learning** and semantic-space preprocessing. My research experience encompasses machine learning, deep learning, generative artificial intelligence, and quantum machine learning, supported by a strong interdisciplinary background in mathematics and computer science. I have also conducted research at BBVA and as a visiting PhD student at the University of Nottingham.

Education

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| 2025 – present | PhD in Computer Science
Thesis: "Preprocessing the Semantic Space in Zero-Shot Learning", University of Granada, Granada, Spain. <ul style="list-style-type: none">Supervisors: Isaac Triguero Velázquez, Guillermo Gómez-Trenado, and Francisco Herrera Triguero. |
| 2024 – present | Master's Degree in Data Science and Computer Engineering
University of Granada, Granada, Spain. <ul style="list-style-type: none">Master's thesis in progress. |
| 2022 – 2023 | Master's Degree in Quantum Computing
University of Antonio de Nebrija, Madrid, Spain. <ul style="list-style-type: none">Master's thesis: "Quantum Generative Adversarial Networks." |
| 2018 – 2022 | Bachelor's Degree in Computer Science
University of Granada, Granada, Spain. <ul style="list-style-type: none">Specialisation in Machine Learning and Computer Vision.Bachelor's thesis: "Development of Deep Learning Models Based on Recurrent Neural Networks for the Classification of Electrocardiograms." |
| 2018 – 2022 | Bachelor's Degree in Mathematics
University of Granada, Granada, Spain. <ul style="list-style-type: none">Bachelor's thesis: "Development of Deep Learning Models Based on Recurrent Neural Networks for the Classification of Electrocardiograms." |

Experience

- 2024 - present **PhD Student, Predoctoral Fellowship**
Department of Computer Science and Artificial Intelligence, University of Granada, Granada, Spain.
• Funded by a research contract from the Regional Government of Andalusia.
- 2025 **Visiting PhD Student**
University of Nottingham, Nottingham, United Kingdom.
• Collaborated in the Computer Vision Lab under the supervision of Shreyank N. Gowda. We worked with diffusion models applied to Zero-Shot Learning.
- 2024 **Quantum Computing Researcher**
Banco Bilbao Vizcaya Argentaria (BBVA), Madrid, Spain.
• Research in Quantum Computing and Quantum Machine Learning.
- 2023 - 2024 **Research Assistant, INCIBE Project**
University of Granada, Granada, Spain.
• Research on General-Purpose Artificial Intelligence.

Research

- 2025 **Semantic-Inductive Attribute Selection for Zero-Shot Learning**
J. Herrera-Aranda, G. Gómez-Trenado, F. Herrera, and I. Triguero. Logic Journal of the IGPL.
- 2025 **A first approach to refine semantic spaces in zero-shot learning with a genetic algorithm**
J. J. Herrera, F. Herrera, and I. Triguero. IEEE Congress on Evolutionary Computation (CEC), pp. 1-4.
- 2024 **A preliminary study on preprocessing the semantic space in zero-shot learning**
J. J. Herrera Aranda, F. Herrera, and I. Triguero. International Conference on Hybrid Artificial Intelligence Systems (HAIS), pp. 177-189.
- 2024 **Aprendizaje Generalizado de Cero Ejemplos: Revisión del Estado del Arte y Estudio Preliminar de la Influencia del Preprocesamiento**
XI Simposio Teoría y Aplicaciones de Minería de Datos, Conferencia de la Asociación Española para la Inteligencia Artificial (CAEPIA).
- 2023 **Quantum Adversarial Generative Networks**
MSc thesis, University of Nebrija, Spain.
- 2022 **Development of Deep Learning Models Based on Recurrent Neural Networks for the Classification of Electrocardiograms**
BSc thesis, University of Granada, Spain.

Training courses

- July 2026 **Agentic AI course**
University of Granada, Granada, Spain.
- Feb 2026 **International Winter School on General-Purpose Artificial Intelligence**
University of Granada, Granada, Spain.
- July 2024 **International Summer School on Data Science - Trustworthy, Safe and Governable AI**
AdiaLab, University of Granada, Granada, Spain.

Awards

- Feb 2026 **Best Project, International Winter School on General-Purpose Artificial Intelligence**
University of Granada.
- Dec 2024 **Best Project, II DaSCi Pre-Doctoral Workshop**
University of Granada.
- July 2024 **Best Project, International Summer School on Data Science - Trustworthy, Safe and Governable AI**
AdiaLab, University of Granada.

Teaching

2024 - 2025	Artificial Intelligence Bachelor's Degree in Computer Science and Mathematics, University of Granada, Granada, Spain.
2024 - 2025	Data Mining Bachelor's Degree in Statistics, University of Granada, Granada, Spain.
2024 - 2025	Machine Learning, Teaching Assistant Bachelor's Degree in Computer Science, University of Granada, Granada, Spain.

Outreach and Talks

2026	Three Minute Thesis Competition Competition organised by the Coimbra Group for PhD students; reached the final. Granada, Spain.
2026	Poster Session: Zero-Shot Learning Winning final project in General Purpose AI Winter School. Granada, Spain.
2025	Talk: "Zero-Shot Learning for Image Classification using Generative Models." Talk for the Computer Vision Lab during a visiting period at the University of Nottingham, Nottingham, United Kingdom.
2025	Talk on the dangers of ChatGPT Pint of Science. Granada, Spain.
2025	Poster presentation IEEE Congress on Evolutionary Computation. Hangzhou, China.
2024	Talk: "Preprocessing the Semantic Space in Zero-Shot Learning." DaSci Pre-Doctoral Workshops. Granada, Spain.
2024	Mini-tutorials on using different AI tools European Researchers' Night. Granada, Spain.
2024	Jailbreaking in Large Language Models. International Summer School on Data Science: Trustworthy, Safe and Governable AI. Granada, Spain.

News and Media

2025	Canal UGR Reached the final of the Three Minute Thesis competition.
2024	Radiolab UGR Invited speaker on a podcast as a PhD student in Artificial Intelligence.

Languages

Spanish	Native speaker
English	Fluent