Fernando Peña Bes

Researcher in Computer Science

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Education

2021–2023   **M.S. in Robotics, Graphics and Computer Vision**, *Universidad de Zaragoza*, Spain
Semester abroad at University of Technology Sydney, Australia. Thesis: "Hyperspectral image processing for livestock and agriculture applications". Advised by Teresa Vidal-Calleja and Alen Alempijevic.

2017–2021   **B.S. in Computer Science Engineering**, *Universidad de Zaragoza*, Spain
Thesis: "Deep learning models for eye tracking data". Advised by Daniel Martín and Belén Masiá.

Experience

Mar 2023– present   **Researcher (N3 researcher)**, *Aragon Institute of Engineering Research (I3A)*, Spain.
Researching on the design, implementation and evaluation of efficient image-processing algorithms. Supervised by Darío Suárez Gracia and Ana C. Murillo.

Mar 2022– Jul 2022   **Research assistant (N4 researcher)**, *Aragon Institute of Engineering Research (I3A)*, Spain
Analyzed and implemented proposals to improve the performance and energy efficiency of a vision pipeline for hyperspectral images based on deep learning. Supervised by Darío Suárez Gracia and Ana C. Murillo.

Research Stays

Dec 2022– Jan 2023   **Research intern**, *Robotics Institute, University of Technology Sydney*, Australia
Contributed in the creation of a novel dataset for estimating fat depth in lamb cuts using deep learning techniques. Supervised by Teresa Vidal-Calleja, Alen Alempijevic and Raphael Falque.

Jun 2020– Sep 2020   **Research intern**, *M2BE Research Group, Aragon Institute of Engineering Research (I3A)*, Spain
Worked on the simulation of chemically reacting systems using the Gillespie algorithm. Supervised by Francisco Merino-Casallo.

Publications

2022

Subcutaneous Fat Depth Regression Using Hyperspectral and Depth Imaging
Fernando Peña*, Jasprabhjit Mehami*, R. Guenot-Falque, Timothy Patten, Alen Alempijevic, Teresa Vidal-Calleja.
Australasian Conference on Robotics and Automation (ACRA). 2022. (Oral).

Efficient Semantic Segmentation with Hyperspectral Images
Fernando Peña, Pilar Vidal Aguilar, Darío Suárez Gracia, Ana C. Murillo.
ROBOT2022: Fifth Iberian Robotics Conference. pp. 187–198. 2022. (Oral).

A phylogenetic study of COVID-19 data from Aragon and Catalonia over a year: learning Bioinformatics during a world pandemic
Fernando Peña Bes, Álvaro García-Díaz, Alejandro Gómez-González, Adrián Martín-Marcos, Álvaro Romeo, José Manuel Sánchez-Aquilué, Alba Vallés, Elvira Mayordomo Cámara.
XI Jornada de Jóvenes Investigadores del I3A. vol. 10. 2022. (Poster).

Conferences

06/12/2022– **Australasian Conference on Robotics and Automation (ACRA) 2022**, Brisbane, Aus-
08/12/2022 tralia.
Subcutaneous Fat Depth Regression Using Hyperspectral and Depth Imaging
Oral presentation

16/06/2022 **XI Jornada de Jóvenes Investigadores del I3A**, Zaragoza, España.
A phylogenetic study of COVID-19 data from Aragon and Catalonia over a year: learning
Bioinformatics during a world pandemic
Poster

Scholarships and Achievements

Jul 2022– **North America/Asia/Oceania Mobility Program**, *Universidad de Zaragoza*, University of
Jan 2023 Technology Sydney, Australia
Scholarship granted by the University of Zaragoza. It gave me the opportunity to do my master's
thesis at the Robotics Institute of the University of Technology Sydney in Australia.

Nov 2020– **Collaboration Research Scholarship**, *Spanish Ministry of Education*, Universidad de
Jun 2021 Zaragoza, Spain
National scholarship to collaborate at a Spanish university department. Designed and implemented
an automatization system for a fuel cells test bench at the Science and Technology of Materials and
Fluids Department. Supervised by Miguel Ángel Laguna-Bercero.

Sep 2015 **English Inmersion Program Abroad**, *Aragon Goverment*, Bradford District High School,
Ontario, Canada
Regional scholarship to attend to a Canadian High School while living with a local family.

Jul 2015 **Scientific Campus Scholarship**, *FECYT and Spanish Ministry of Education*, Campus En-
ergía UPC, Universidad Politécnica de Cataluña, Spain
National scholarship to participate in a summer project at a Spanish university. Project title:
"The electric vehicle: a new technological challenge in the automotive industry".

Languages

Spanish   Native
English   Cambridge FCE – B2 Level (Sep 2016)

Other Merits

B1 Driving License

Last updated: June 22, 2023.