Daniel Fernández Martínez

School of Industrial Engineering
University of Extremadura
28/10/1997, Badajoz, Spain
danielfm@unex.es
Webpage : dfmaz.github.io
Orcid : 0000-0002-1712-7177

PHD STUDENT

GRADUATE STUDIES

University of Extremadura, Badajoz, Spain
Master of Science, Simulation in Science and Engineering   *Nov' 21*

University of Extremadura, Badajoz, Spain
Bachelor of Science, Industrial Electronics and Automation Engineering,   *Jul' 20*
Erasmus programme: **Bialystok University of Technology** (Poland),
SICUE National Exchange programme: **University of Cantabria** (Spain)

RESEARCH INTERESTS

Computational Fluid Dynamics, Bioengineering, Data-Driven Models
Deep Learning, Time Series Forecasting, Reduced Order Models, Optimization

INDEXED JOURNAL PUBLICATIONS

Fernández-Martínez, D., Jaramillo-Morán, M.A. Multi-Step Hourly Power Consumption Forecasting in a Healthcare Building with Recurrent Neural Networks and Empirical Mode Decomposition. *Sensors 2022, 22, 3644.*
DOI: 10.3390/s22103664

Jaramillo-Morán, M.A., **Fernández-Martínez, D.**, García-García, A., Carmona-Fernández, D. Improving Artificial Intelligence Forecasting Models Performance with Data Preprocessing: European Union Allowance Prices Case Study. *Energies 2021, 14, 7845.*
DOI: 10.3390/en14237845

CONFERENCE PUBLICATIONS

Fernández-Martínez, D., Montanero, J.M., González-Fernández, M.R., Nogales-Asensio, J.M., Ferrera, C. Quantitative assessment of the variability of FFR-CT due to minimal uncertainty in lumen segmentation threshold *VII ECCOMAS Young Investigators Conference YIC2023* Jun' 13 - Jun' 23, Porto, Portugal *(accepted)*

Fernández-Martínez, D., Agujetas, R., Nogales-Asensio, J.M., Tena, A.F., Ferrera, C. Influence of the location point for the Fractional Flow Reserve measurement. A computational study. *SFMC22 I Spanish Fluid Mechanics Conference* Jun' 19 - Jun' 22, Cádiz, Spain

---

RESEARCH EXPERIENCE

Fluid dynamics technology applied to diagnosis and personalized treatment of high-mortality cardiovascular pathologies
Supervisor: Dr. Conrado Ferrera   *Feb' 22 - Present*

- Position: Research Assistant, Fluid Mechanics Group, School of Industrial Engineering (UEX), Badajoz, Spain
- Funding: Ayudas destinadas a la realización de proyectos de investigación en los centros públicos de I+D+I de la Comunidad Autónoma de Extremadura

An AI-based recommendation system for "green routes" in sustainable urban environments
Supervisor : Dr. Filippo Bistaffa   *Oct' 21 - Nov' 21*

- Position: JAE Intro Fellow, Group of Multiagent Systems, Artificial Intelligence Research Institute (IIIA-CSIC), Spanish National Research Council, Barcelona, Spain
- Funding: JAE Intro ICU Fellowship, Spanish National Research Council
- Renounced due to incompatibility with current contract

Electrical load forecasting with advanced machine learning techniques
Supervisor: Dr. M.A. Jaramillo Morán   *Nov' 20 - Feb' 22*

- Position: Research Support Engineer, Group of Industrial Applications of Artificial Intelligence, School of Industrial Engineering (UEX), Badajoz, Spain

- Funding: Ayudas para el fomento de la contratación de personal de apoyo a la investigación en la Comunidad Autónoma de Extremadura

---

RESEARCH STAYS **Visiting Researcher**, Faculty of Mechanical Engineering, Universidade do Minho   *Jul' 22*

FELLOWSHIPS & AWARDS

JAE Intro ICU Fellow, Spanish National Research Council (CSIC)   *Oct' 21*
Erasmus Grant, European Commission   *Sep' 19*
SICUE National Exchange Programme, CRUE Universidades Españolas   *Sep' 18*

SEMINARS & TALKS

FFR-CT: Role of Global Lumen Segmentation Uncertainty, Advances in Fluid Mechanics, University of Extremadura   *Mar' 23*
FFR-CT as a non-invasive procedure for the detection of significant coronary lesions, University Hospital of Badajoz   *Feb' 23*
Fluids in the era of Data: Opportunities and Challenges, Advances in Fluid Mechanics, University of Extremadura   *Apr' 22*

COMPUTER SKILLS

Languages & Frameworks: Python, Tensorflow, Streamlit, C, R, Java
OS & other CS tools: Linux, Windows, Git, LaTeX
Engineering software: MATLAB, Ansys Fluent, Solidworks, Materialise

TRAININGS

Introduction to 3D printing, University of Extremadura   *Jul' 21*
Deep Learning Specialization, deeplearning.io   *Mar' 20 - May' 20*
Object Oriented Programming in JAVA, University of Extremadura   *Feb' 16 - Jun' 16*

LANGUAGES

Spanish, Native proficiency
English, Full professional working proficiency
French, Elementary proficiency