José Miguel Aragón-Jurado

PhD in Computer Science | Postdoctoral Researcher (FPU Fellow) | Age: 26
GOAL Research Group – https://tic259.uca.es/
Department of Computer Engineering, University of Cadiz, Spain
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Languages: Spanish (native), English (C1+ equivalent), Japanese (basic familiarity)

PhD in Computer Science and Postdoctoral Researcher (FPU Fellow) at the University of Cádiz, Spain. His research advances sustainability in three main areas: green software, sustainable public transport, and software code obfuscation. Using compiler optimization, artificial intelligence, machine learning, and metaheuristics, he works to reduce the environmental impact of software and promote sustainability through intelligent systems. He has authored 9 peer-reviewed journal articles (7 Q1, 2 Q2) and more than 20 conference papers, including presentations at CORE A venues. His academic career includes research stays in Japan (Ritsumeikan University, Osaka Metropolitan University) and Canada (University of Alberta), resulting in multiple joint publications.

WORK EXPERIENCE

POSTDOCTORAL RESEARCHER (FPU FELLOW) — **Cadiz, Spain**
University of Cadiz — *July 2025–Present*

- Conducting postdoctoral research on modern compiler optimizations and their impact on runtime and energy consumption.
- Designed several experimental frameworks to evaluate compiler configurations on web browsers, CUDA applications on embedded GPUs, and Unity-based video games.
- Analyzed optimization managers in LLVM/Clang and GCC and their effect on performance and energy efficiency.

PREDOCTORAL RESEARCHER (FPU FELLOW) — **Cadiz, Spain**
University of Cadiz — *January 2023–July 2025*

- Conducted a PhD thesis titled "*Software Optimization for the Green Internet of Things*".
- Proposed and solved 3 novel compiler optimization problems (SCOP, gSCOP, FROP) using evolutionary algorithms and LLVM, achieving up to 62% faster runtimes and 58% energy savings.
- Designed adaptive software optimization frameworks for energy-efficient IoT, gaming, and embedded systems.
- Developed ML-based models (MEPBO, SUTRA, ML-EPBO) for hybrid bus systems, reducing CO_2 emissions by up to 7.67% and reaching 99.2% prediction accuracy.
- Introduced the TSOP obfuscation model and created the C3GA algorithm, improving code protection by up to 405× in low-power environments.
- Published 9 journal papers (7 Q1, 2 Q2) and 16+ conference papers (incl. CORE A/A*).
- Conducted international research stays in Canada and Japan, leading to ongoing collaborations and joint publications.

GRADUATE RESEARCHER — **Cadiz, Spain**
University of Cadiz — *November 2021–September 2022*

- Analyzed energy consumption data for plug-in hybrid buses and developed predictive regression models.

- Conducted data processing, enrichment, and imputation, including treatment of data uncertainty.
- Optimized operational strategies and validated simulators and predictive tools developed during the project.

EDUCATION

UNIVERSITY OF CADIZ **Cadiz, Spain**
PhD in Computer Science *November 2022–July 2025*
Graduated *Summa Cum Laude* (Highest distinction)

UNIVERSITY OF CADIZ **Cadiz, Spain**
Master of Research in Systems and Computer Engineering *October 2021–September 2022*
Specialization in Big Data
GPA: 9.26/10

- *Master's thesis awarded 10/10 (with distinction)*
- Awarded the Extraordinary Master's Degree Award for best academic performance.
- Received five distinctions for academic excellence.

UNIVERSITY OF CADIZ **Cadiz, Spain**
Bachelor of Science in Computer Engineering *September 2017–July 2021*
Specialization in Computer Science
GPA: 8.73/10

- Bachelor's thesis graded 10/10 (with distinction)
- Received eight academic honors.
- Student Research Assistant. *November 2018 – September 2020*

PUBLICATIONS

JOURNAL PAPERS

J9. Aragón-Jurado J. M.; Bangash A. A.; Dorronsoro B.; Ali K.; Hindle A.; Ruiz P. 2025. *Does Faster Mean Greener? Runtime and Energy Trade-offs in iOS Applications with Compiler Optimizations*. Sustainable Computing: Informatics and Systems. Elsevier. 47. 101166. DOI: https://doi.org/10.1016/j.suscom.2025.101166 (**Outcome of research stay in University of Alberta**) (**IF 5.7, CiteScore 12.3, Q1**, 2024)

J8. Díaz-Jiménez M.**; Aragón-Jurado J. M.;** Dorronsoro B.; Pavón-Domínguez P.; Seredynski M.; Ruiz P. 2025. *Sustainable driving operations of urban plugin hybrid buses considering restricted emission mapping zones*. Engineering Applications of Artificial Intelligence. Elsevier. 157. 111179. DOI: https://doi.org/10.1016/j.engappai.2025.111179 (**IF 8.0, CiteScore 9.5, Q1**, 2024)

J7. Aragón-Jurado J. M.; Ruiz P.; Dorronsoro B.; Thawonmas R. 2025. *Green Gaming: Automated Energy Consumption Reduction for Doom Engine*. IEEE Consumer Electronics Magazine. IEEE. DOI: https://doi.org/10.1109/MCE.2025.3565227 (**Outcome of research stay in Ritsumeikan University**) (**IF 4.1, CiteScore 11.1, Q1**, 2024)

J6. Aragón-Jurado J. M.; de la Torre J. C.; Ruiz P.; Dorronsoro B. 2025. *Automatic software tailoring for Green Internet of Things*. Internet of Things. Elsevier. 30. 101521. DOI: https://doi.org/10.1016/j.iot.2025.101521 (**IF 7.6, CiteScore 12.4, Q1**, 2024)

J5. Aragón-Jurado J. M.; de la Torre J. C.; Ruiz P.; Galindo P. L.; Zomaya A. Y.; Dorronsoro B. 2024. *Automatic Software Tailoring for Optimal Performance. IEEE Transactions on Sustainable Computing*. IEEE. 9-3, pp.464-481. DOI: https://doi.org/10.1109/TSUSC.2023.3330671 (**IF 3.9, CiteScore 8, Q1**, 2024)

J4. de la Torre J. C.; **Aragón-Jurado J. M.**; Crespo-Álvarez A.; Bárcena-González G. 2024. *GAGI: Game engine for Artificial General Intelligence experimentation*. SoftwareX. Elsevier. 26. DOI: https://doi.org/10.1016/j.softx.2024.101665 (**IF 2.4, CiteScore 4.2, Q2**, 2024)

J3. de la Torre J. C.; Jareño J.; **Aragón-Jurado J. M.**; Varrette S.; Dorronsoro B. 2024. *Source code obfuscation with genetic algorithms using LLVM code optimizations*. Logic Journal of the IGPL. Oxford University Press. DOI: https://doi.org/10.1093/jigpal/jzae069 (**IF 0.8, CiteScore 2.4, Q2**, 2024)

J2. Aragón-Jurado J. M.; de la Torre J. C.; Jareño J.; Dorronsoro B.; Zomaya A. Y.; Ruiz P. 2023. *Neuroevolved bi-directional LSTM applied to zero emission zones management in urban transport*. Applied Soft Computing. Elsevier. 148. DOI: https://doi.org/10.1016/j.asoc.2023.110943 (**IF 7.2, CiteScore 15.8, Q1**, 2023)

J1. Ruiz P.; **Aragón-Jurado J. M.**; Seredynski M.; Cabrera J. F.; Peña D.; de la Torre J. C.; Zomaya A. Y.; Dorronsoro B. 2023. *Optimal battery management strategies for plug-in electric hybrid buses on routes including green corridors*. Sustainable Cities and Society. Elsevier. DOI: https://doi.org/10.1016/j.scs.2023.104556 (**IF 10.5, CiteScore 22.0, Q1**, 2023) (**Best paper award**)

JOURNAL PAPERS UNDER REVIEW

J11. Jareño J.; **Aragón-Jurado J. M.**; de la Torre J. C.; Ruiz P.; Dorronsoro B. 2025. E*nergy-Efficient Large Language Models*. Under review in Future Generation Computer Systems. Elsevier. (**IF 6.1, CiteScore 17.1, Q1**, 2024)

J10. Aragón-Jurado J. M.; de la Torre J. C.; Nojima Y.; Ruiz P.; Dorronsoro B. 2025. *Two-Level Automatic Software Optimization Using Cooperative Co-evolutionary Algorithms*. Under review in Applied Soft Computing. Elsevier. (**IF 6.6, CiteScore 14.5, Q1**, 2024)

JOURNAL PAPERS PENDING SUBMISSION

J14. Aragón-Jurado J. M.; Ruiz P.; Dorronsoro B. 2025. *Energy–Performance Trade-offs of CUDA Compiler Optimizations in Embedded GPUs*. Pending submission to Journal of Systems Architecture. Elsevier. (**IF 4.1, CiteScore 10.5, Q1**, 2024)

J13. Aragón-Jurado J. M.; Thawonmas R.; Ruiz P.; Dorronsoro B. 2025. *Native Code, Greener Games? Investigating Energy Efficiency in Unity Builds*. Pending submission to Entertainment Computing. Elsevier. (**Outcome of research stay in Ritsumeikan University**) (**IF 2.4, CiteScore 5.6, Q2**, 2024)

J12. Aragón-Jurado J. M.; Dorronsoro B.; Ruiz P. 2025. *Evaluating Compiler Optimizations for Faster and Greener Web Browsing*. Pending submission to Sustainable Computing: Informatics and Systems. Elsevier. (**IF 5.7, CiteScore 12.3, Q1**, 2024)

BOOK CHAPTERS

B1. Dorronsoro B.; **Aragón-Jurado J. M.**; Jareño J.; de la Torre J. C.; Ruiz P. 2024. A Survey on Automatic Source Code Transformation for Green Software Generation. Encyclopedia of Sustainable Technologies (Second Edition). Elsevier. 3, pp.765-779. DOI: https://doi.org/10.1016/B978-0-323-90386-8.00122-4

INTERNATIONAL CONFERENCE PAPERS

C13. de la Torre J. C.; **Aragón-Jurado J. M.**; Jareño J.; Dorronsoro B.; Ruiz P. *A Two-step Approach to Find Short Compilation Transformation Sequences for Optimal Software Runtime Performance*. In Proceedings of the Genetic and Evolutionary Computation Conference Companion. ACM. 2025. Málaga, Spain. DOI: https://doi.org/10.1145/3712255.3726624 (**CORE A**, **GGS A**, 2024)

C12. Kalaica M.; **Aragón-Jurado J. M.;** Jakus I.; Dorronsoro B.; Ruiz P. *Comparison on the use of Hybrid and Plugin Hybrid Electric Buses for Sustainable Urban Transportation - Split Use Case*. 10th North American Conference on Industrial Engineering and Operations Management (2025 IEOM). 2025. Orlando, Florida, USA. DOI: https://doi.org/10.1007/978-3-031-98235-4_12

C11. Aragón-Jurado J. M.; de la Torre J. C.; Ruiz P.; Dorronsoro B. *Automatic Generation of Greener Software Program Versions with Genetic Algorithms*. International Conference in Optimization and Learning (OLA2025). 2025. Dubai, United Arab Emirates.

C10. Aragón-Jurado J. M.; Jareño J.; de la Torre J. C.; Ruiz P.; Dorronsoro B. *Two-level Software Obfuscation with Cooperative Co-evolutionary Algorithms*. In 2024 IEEE Congress on Evolutionary Computation (CEC) (pp. 1-8). IEEE. 2024. Yokohama, Japan. DOI: https://doi.org/10.1109/CEC60901.2024.10612116 (**CORE B**, **GGS A-**, 2025)

C9. Aragón-Jurado J. M.; Dorronsoro B.; Ruiz P. *Bus Route Segmentation for Performance Optimization Using Geographical Mapping Tools*. INGEGRAF 2024. Lecture Notes in Mechanical Engineering. Springer, Cham. Valencia, Spain. DOI: https://doi.org/10.1007/978-3-031-72829-7_60

C8. Aragón-Jurado J. M.; Díaz-Jiménez M.; Dorronsoro B.; Pavón-Domínguez P.; Seredynski M.; Ruiz P. *Electric Drive Assignment Strategies Optimization for Plugin Hybrid Urban Buses on Tailored Emissions Mapping*. In 2024 IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW) (pp. 909-918). IEEE. 2024. San Francisco, USA. DOI: https://doi.org/10.1109/IPDPSW63119.2024.00160

C7. de la Torre J. C.; **Aragón-Jurado J. M.**; Jareño J.; Ruiz P.; Dorronsoro B. *Software Performance Optimization with Genetic Algorithms.* Tenth Spanish-German Symposium on Applied Computer Science (SGSOACS 2024). 2024. Cadiz, Spain.

C6. Jareño J.; **Aragón-Jurado J. M.**; de la Torre J. C.; Dorronsoro B.; Ruiz P. *Management of Zero Emissions Zones in Urban Transport by Means of Neuroevolution*. Tenth Spanish-German Symposium on Applied Computer Science (SGSOACS 2024). 2024. Cadiz, Spain.

C5. Ruiz P.; **Aragón-Jurado J. M.**; Cabrera J. F.; de la Torre J. C.; Dorronsoro B. *Battery Management Strategies Optimization for Urban Plug-in Hybrid Buses*. International Conference in Optimization and Learning (OLA2024). 2024. Dubrovnik, Croatia.

C4. Aragón-Jurado J. M.; de la Torre J. C.; Ruiz P.; Dorronsoro B. *Automatic Software Performance Optimization using Genetic Algorithms*. International Conference in Optimization and Learning (OLA2024). 2024. Dubrovnik, Croatia.

C3. Aragón Jurado J. M.; Dorronsoro B.; Ruiz P. *Multivariable Visualization Tool of the Performance of Plug-In Hybrid Electric Buses*. Advances in Design Engineering IV. INGEGRAF 2023. Lecture Notes in Mechanical Engineering. Springer, Cham. Cadiz, Spain. DOI: https://doi.org/10.1007/978-3-031-51623-8_30 (**Best paper award**)

C2. de la Torre J. C.; **Aragón-Jurado J. M.**; Jareño J.; Varrette S.; Dorronsoro B. *Obfuscating LLVM Intermediate Representation Source Code with NSGA-II*. International Joint Conference 15th International Conference on Computational Intelligence in Security for Information Systems (CISIS 2022) 13th International Conference on EUropean Transnational Education (ICEUTE 2022). Lecture Notes in Networks and Systems, vol 532. Springer, Cham. Salamanca, Spain. DOI: https://doi.org/10.1007/978-3-031-18409-3_18

C1. Aragón-Jurado J. M.; de la Torre J. C.; Talbi E. G.; Dorronsoro B. *A Study on the Influence of Runtime Uncertainty in the Optimization of Software Programs.* 8th International Conference on Metaheuristics and Nature Inspired Computing META. Marrakech, Morocco. 2021

NATIONAL CONFERENCE PAPERS

NC9. Vázquez-Rodríguez E.; **Aragón-Jurado J. M.**; de la Torre J. C.; Dorronsoro B. *Evolución de la infraestructura de compilación LLVM según las optimizaciones de código disponibles*. XXIX Jornadas de Ingeniería del Software y Bases de Datos (JISBD 2025). SISTEDES. 2025. Córdoba, Spain.

NC8. Pérez-Vargas A.; **Aragón-Jurado J. M.**; de la Torre J. C.; Dorronsoro B. *LinuxVerde: Un sistema operativo para la medición precisa del consumo energético del software*. XXIX Jornadas de Ingeniería del Software y Bases de Datos (JISBD 2025). SISTEDES. 2025. Córdoba, Spain.

NC7. de la Torre J. C.; **Aragón-Jurado J. M.**; Jareño J.; Dorronsoro B.; Ruiz P. *Optimización en dos pasos del rendimiento del software usando transformaciones de compilación*. XVI Congreso Español de Metaheurísticas, Algoritmos Evolutivos y Bioinspirados. AEPIA. 2025. San Sebastián, Spain.

NC6. Aragón-Jurado J. M.; Jareño J.; de la Torre J. C.; Ruiz P.; Dorronsoro B. *Ofuscación de Software en dos Niveles usando Algoritmos Cooperativos Coevolutivos*. XV Congreso Español de Metaheurísticas, Algoritmos Evolutivos y Bioinspirados. AEPIA. 2024. A Coruña, Spain.

NC5. Aragón-Jurado J. M.; de la Torre J. C.; Ruiz P.; Dorronsoro B. *Optimización automática del videojuego Doom para un rendimiento óptimo en Steam Deck*. III Congreso Español de Videojuegos. Sociedad Científica Informática de España. 2024. A Coruña, Spain. (**Best paper award**)

NC4. Aragón-Jurado J. M.; Acuña-Vega L. E.; Ortiz G.; Boubeta-Puig J.; Muñoz A. *Detección Inteligente de Sucesos en Smart Cities con Feedback de los Ciudadanos*. XVII Jornadas de Ingeniería de Ciencia e Ingeniería de Servicios (JCIS 2022). SISTEDES. 2022. Santiago de Compostela, Spain.

NC3. Aragón-Jurado J. M.; de la Torre J. C.; Benito-Jareño C.; Dorronsoro B. *Optimización de programas software considerando la incertidumbre del tiempo de ejecución*. XXVI Jornadas de Ingeniería del Software y Bases de Datos (JISBD 2022). SISTEDES. 2022. Santiago de Compostela, Spain.

NC2. Aragón-Jurado J. M.; Acuña-Vega L. E.; Ortiz G.; Boubeta-Puig J.; Muñoz A. *Hacia la Detección Inteligente de Sucesos en Ciudades Inteligentes con la Participación Ciudadana*. II Jornadas de Investigación Predoctoral en Ingeniería Informática (JIPII 2022). University of Cadiz. 2022. Cadiz, Spain.

NC1. Aragón-Jurado J. M.; de la Torre J. C.; Benito-Jareño C.; Dorronsoro B. *Optimización robusta del tiempo de ejecución de programas software con Algoritmos Genéticos*. II Jornadas de Investigación Predoctoral en Ingeniería Informática (JIPII 2022). University of Cadiz. 2022. Cadiz, Spain.

TEACHING EXPERIENCE

TEACHING ASSISTANT

Total hours delivered: 152

T5. Course/Subject: 2024-25 PERCEPTION. **Department/Center:** Department of Computer Engineering, University of Cadiz. **Hours delivered:** 24 (**Bachelor's level**)

T4. Course/Subject: 2024-25 MACHINE LEARNING. **Department/Center:** Department of Computer Engineering, University of Cadiz. **Hours delivered:** 36 (**Bachelor's level**)

T3. Course/Subject: 2023-24 PERCEPTION. **Department/Center:** Department of Computer Engineering, University of Cadiz. **Hours delivered:** 24 (**Bachelor's level**)

T2. Course/Subject: 2023-24 MACHINE LEARNING. **Department/Center:** Department of Computer Engineering, University of Cadiz. **Hours delivered:** 36 (**Bachelor's level**)

T1. Course/Subject: 2022-23 AUTOMATA THEORY AND FORMAL LANGUAGES. **Department/Center:** Department of Computer Engineering, University of Cadiz. **Hours delivered:** 32 (**Bachelor's level**)

ACADEMIC SUPERVISION

BT5. Maria Elena Vazquez Rodriguez – *Analysis of the impact of the evolution of the LLVM compilation infrastructure on source code obfuscation*, BSc Thesis, University of Cadiz, expected 2025. (in progress)

Resulted in a national conference paper: *XXIX Jornadas de Ingeniería del Software y Bases de Datos (JISBD 2025)*

BT4. Alvaro Perez Vargas – *GreenLinux, a version of Linux designed to have a low impact on energy consumption in microPCs*, BSc Thesis, University of Cadiz, expected 2025. (in progress)

Resulted in a national conference paper: *XXIX Jornadas de Ingeniería del Software y Bases de Datos (JISBD 2025)*

BT3. David Castillo Reguera – *Optimization through metaheuristic techniques of the design of positioning networks for the location of terrestrial laser scanners*, BSc Thesis, University of Cadiz, expected 2025. (in progress)

BT2. Ignacio Gilabert Rodriguez – *Evaluating the quality of obfuscation in compiled codes*, BSc Thesis, University of Cadiz, 2025. (completed – Grade: 8.0/10.0)

BT1. Francisco Jose Sanchez Moreno – *Design and development of a markup language for the description of cooking recipes*, BSc Thesis, University of Cadiz, 2024. (completed – Grade: 10.0/10.0)

EXAMINATION COMMITTEES

EC4. Member of the evaluation committee for the BSc Thesis. *Optimization of Maritime Routes Using Parallel Ant Colony Algorithms for a Weather Routing System*, September 2025. Grade: 9.5/10.0.

EC3. Member of the evaluation committee for the BSc Thesis. *Reference-based Super-Resolution Techniques Applied to Ultrasound Imaging*, September 2025. Grade: 7.5/10.0.

EC2. Member of the evaluation committee for the BSc Thesis. *Methodologies for Video Game Development: A Review from a Software Engineering Perspective*, September 2025. Grade: 9.0/10.0.

EC1. Member of the evaluation committee for the BSc Thesis. *Optimization of Season Ticket Renewal Campaigns in Football Clubs through Personalized Price Simulation*, September 2025. Grade: 7.0/10.0.

PRESENTATIONS AND LECTURES

INVITED TALKS

L7. Toward Greener Games: Reducing Energy for a Sustainable Future. 6th RCGS Research Workshop. Ritsumeikan University, Ibaraki, Japan. 2025-06-25

L6. Software Optimization for the Green Internet of Things. Computational Intelligence Lab. Osaka Metropolitan University, Osaka, Japan. 2025-06-04

L5. Source Code Obfuscation with Evolutionary Algorithms. Amii Artificial Intelligence Seminar. University of Alberta, Edmonton, Canada. 2024-07-29

ACADEMIC LECTURES

L4. Multi-objective optimization for the obfuscation of software programs using LLVM. Master of Science in Cybersecurity. University of Cadiz, Cadiz, Spain. 2022-05-06

L3. Reducing energy consumption of programs on Android smartphones using genetic algorithms. Bachelor of Science in Computer Engineering. University of Cadiz, Cadiz, Spain. 2021-09-29

L2. Parallel genetic algorithms for software optimization: an analysis of performance on different platforms. Bachelor of Science in Computer Engineering. University of Cadiz, Cadiz, Spain. 2021-09-29

L1. Parallel genetic algorithms: designs and applications. Bachelor of Science in Computer Engineering. University of Cadiz, Cadiz, Spain. 2021-09-29

OVERSEAS RESEARCH EXPERIENCE

RESEARCH STAYS

RS2. Guest Researcher at Ritsumeikan University, Ibaraki, Japan. *April 2025 – June 2025*

Host: Prof. Ruck Thawonmas

Project Objective: Empirical study on the impact of compiler optimizations on the energy consumption of video game engines, focusing on optimizing the energy usage of the popular video game Doom.

Outcomes: Journal paper published in *IEEE Consumer Electronics Magazine* – IEEE (**IF 4.1, CiteScore 11.1, Q1**, 2025).

RS1. Guest Researcher at the University of Alberta, Edmonton, Canada. *May 2024 – August 2024*

Host: Prof. Abram Hindle

Project Objective: Empirical study on the impact of compiler optimizations on the energy consumption of applications on iOS devices.

Outcomes: Journal paper currently under review in *Sustainable Computing: Informatics and Systems* - Elsevier (**IF 5.7, CiteScore 12.3, Q1**, 2025).

INTERNATIONAL COLLABORATIONS

IC2. Prof Yusuke Nojima – Osaka Metropolitan University, Japan. *June 2025 – Present*

Initiated collaborative research on robust evolutionary algorithms for sustainable computing following an in-person lab visit in June 2025. During the visit, I gave a research talk and held technical discussions with Prof. Nojima's group, laying the groundwork for ongoing joint work.

IC1. Prof. Ruck Thawonmas – Ritsumeikan University, Japan. *April 2025 – Present*

Continued collaboration on green video games and energy-efficient LLMs after completing an in-person research stay. Ongoing joint research initiatives are being developed.

INVOLVEMENT IN FUNDED RESEARCH PROJECTS

P4. Intelligent eco-driving solutions for sustainable mobility [PID2022-137858OB-I00]

National R&D Project | Ministry of Science and Innovation, Spain | **Team Member**

P3. Characterization of energy efficiency in the software/hardware binomial using multifractal analysis. [TED2021-131880B-I00].

National R&D Project | Ministry of Science and Innovation, Spain | **Team Member**

P2. Intelligent Generation of Sustainable Software - GENIUS [P18-FR-2399].

National R&D Project | Ministry of Economy, Innovation and Science of Andalucia. Spain | **Team Member**

P1. Intelligent Sustainable Urban Transportation Systems [RTI2018-100754-B-I00]

National R&D Project | Ministry of Science, Innovation and Universities, Spain | **Team Member**

AWARDS AND GRANTS

PAPER AND PRESENTATION AWARDS

BP3. 2024 Best Paper Award - III Congreso Español de Videojuegos. Sociedad Científica Informática de España.

Awarded for the paper "*Optimización automática del videojuego Doom para un rendimiento óptimo en Steam Deck*".

BP2. 2023 Best Journal Paper Award - Cepsa Foundation Chair Award. Cepsa.

Awarded for the article "Optimal Battery Management Strategies for Plug-in Electric Hybrid Buses on Routes Including Green Corridor," published in Sustainable Cities and Society.

BP1. 2023 Best Paper Award - International Conference on The Digital Transformation in Graphic Engineering 2023 (INGEGRAF 2023). INGEGRAF.

Recognized for the paper "*Multivariable Visualization Tool of the Performance of Plug-In Hybrid Electric Buses*."

FELLOWSHIPS

F2. 2025 FPU Mobility Grant - Spanish Ministry of Science, Innovation and Universities.

Competitive national mobility grant awarded under the FPU program to support international research stays. Ranked first in Computer Science with the highest possible evaluation score.

F1. 2021 National FPU Fellowship, competitive research grant awarded by the Spanish Ministry of Universities.

Prestigious and highly competitive national grant for doctoral studies, awarded based on academic excellence and research potential.

OTHER AWARDS

OA4. 2025 Doctoral Defense Incentive – Modality B (€1000), University of Cadiz.

Grant awarded to support the final stage and defense of the PhD thesis.

OA3. 2022 Extraordinary Master's Degree Award, awarded to the top student in the Master's program

Granted to the top-performing student in the Master of Research in Systems and Computing Engineering.

OA2. 2022 INICIA-INV Research Initiation Grant, University of Cadiz
Competitive research grant awarded under the UCA Research and Transfer Plan to support early-stage researchers based on academic excellence and the quality of the master's thesis.

OA1. 2019 First Prize – atrÉBT! Entrepreneurship Competition (13th Edition), University of Cadiz.
Awarded for an innovative student-led technology project as part of a university-wide competition promoting entrepreneurship and innovation.

SERVICE

CONFERENCE ORGANIZATION

O2. Collaborator in International Conference on The Digital Transformation in Graphic Engineering 2023 (INGEGRAF 2023).

O1. 2023 Special Session Organization - Artificial Intelligence for Sustainability in the 6th International Conference on Optimization and Learning (OLA).

REVIEWER

JOURNAL

R10. Reviewer for the journal: Urban Transitions – Elsevier.

R9. Reviewer for the journal: Computers & Security – Elsevier.

R8. Reviewer for the journal: Journal of Supercomputing – Springer.

R7. Reviewer for the journal: Future Generation Computer Systems – Elsevier.

R6. Reviewer for the journal: Sustainable Computing: Informatics and System – Elsevier.

R5. Reviewer for the journal: Applied Soft Computing – Elsevier.

R4. Reviewer for the journal: Engineering Applications of Artificial Intelligence – Elsevier.

CONFERENCE

R3. Reviewer for the conference: IEEE Global Conference on Consumer Electronics (GCCE) 2025.

R2. Reviewer for the conference: IEEE Conference on Games (CoG) 2025.

BOOK

R1. Reviewer for the book: Data Analytics and Computational Intelligence (2022)

PROFESSIONAL MEMBERSHIP

PM4. Member, Association for Computing Machinery (ACM) – *April 2025 – Present*

PM3. Member, IEEE Computer Society – *March 2024 – Present*

PM2. Council Member, Department of Computer Engineering, University of Cadiz – *June 2023 – Present*

PM1. Member, GOAL Research Group – *July 2021 – Present*