

Javier Montero de Espinosa Alés

Biomedical Engineer.

Master's Degree in Microelectronics



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Professional Profile and Technical Skills

I am a Biomedical Engineer with a strong technical background and an outstanding academic record, including 10 honors distinctions. I hold a Master's degree in Microelectronics, which has enabled me to integrate advanced technological knowledge with hands-on experience in hospital settings, particularly in the field of electromedical equipment. Alongside this, I have built a versatile career that ranges from developing hospital management applications to communicating effectively with patients and healthcare professionals. I have also worked in commercial and creative environments, including as an advertising actor and agency collaborator—experiences that have enhanced my confidence, communication abilities, and adaptability. I am fluent in English (C1 level), proficient in French (B2 level), and have advanced knowledge of Japanese (Noken 4 level), which allows me to work comfortably in international settings. All these experiences define me as a resourceful, people-oriented professional with a clear vocation for applying technology in the service of healthcare.

Education

- Health Engineering (specialization in Biomedical Engineering)
UNIVERSITY OF SEVILLE (2020-2024)
- Master's Degree in Microelectronics, Faculty of Physics
UNIVERSITY OF SEVILLE (2020-2024)

Recognized as an outstanding student in subjects such as electronics, electromedical systems, computer architecture, physics, mathematics, robotics, and anatomy, among others.

Languages

- **English:** C1 – Advanced
 - **French:** B2
 - **Japanese:** JLPT N5/N4.
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Academic Achievements

- **Bachelor's thesis with honors:** *Modeling of avascular tumors.*
Department of Applied Mathematics I.
- Honors in Electronics.
- Honors in Computer Architecture.
- Honors in Anatomy.
- Honors in Physiology.
- Honors in Operating Systems.
- Honors in Algebra.
- Honors in Medical Robotics.
- Honors in Statistics.
- Honors in Hospital Facilities.

Publications and Conferences

- **41st Hospital Engineering Congress** – October 2024
Oral presentation titled “*Modeling of Avascular Tumors*”, presented at the 41st Hospital Engineering Congress. This work explores the mathematical modeling of avascular tumors and its application in biomedical engineering.
- **Muy Interesante** – June 2025
Personalized Surgical Planning: How 3D Models Can Help Plan Your Surgery
- **Muy Interesante** – May 2025
PET: The Scan That Detects What Your Eyes Cannot See
- **Muy Interesante** – April 2025
A Laboratory in Motion: Decoding the Language of Human Movement
- **Muy Interesante** – March 2025
The Electroencephalogram: Technology That Opens a Window into the Mind and Revolutionizes Neuroscience, Medicine, and Technology
- **Co-author – Guide for Strategic and Responsible Management of Medical Equipment (SEEIC) – June 2025**
Technical document aimed at healthcare professionals and clinical engineers.
- **Co-author of Three Chapters – Global Clinical Engineering Alliance (GCEA), 2025**
Cybersecurity in Healthcare Technology Management
Telemedicine and Remote Care Systems
Radiology and Diagnostic Equipment
- **Author – Scientific Article**
Comparative Benchmarking Analysis of the Virgen del Rocío University Hospital (Seville – Spain) Against a Sample of Hospitals in China (Beijing, Zhejiang) and the United States
Published in *Journal of Clinical Engineering*, 2025

Developed Applications

Experienced developer in Python, HTML, CSS, PHP, and C++, with extensive background in designing web and desktop applications for clinical and technical environments. Some of the solutions developed include:

- **Economic Management App – Virgen del Rocío University Hospital**
Application for the control and monitoring of budgetary funds, proposal tracking, and budget validation for the hospital's executive board.
- **Automated Maintenance Notification System (Corrective and Preventive)**
Platform for mass mailing of personalized maintenance notifications to all units of the hospital based on the technical calendar.

- **Automated Preventive Maintenance Calendar Generator**
Tool that automatically generates the annual maintenance schedule by cross-referencing technical and administrative data per service and device.
 - **Web App for the Spanish Society of Electromedical and Clinical Engineering (SEEIC)**
Web platform featuring intelligent navigation and personalized access to technical guides and documents, tailored to the user's professional profile (clinical, technical, managerial, etc.).
 - **Web App for the Electromedicine Department – Virgen del Rocío University Hospital – Electroforma**
Platform for registering and validating attendance at training sessions, with participation control for both users and organizers.
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Work Experience

Biomedical Engineer – Electromedical Department

Virgen del Rocío University Hospital, Seville (2024 – Present)

- Development of applied research projects and process automation in the hospital environment. Responsible for the design and implementation of custom applications to enhance efficiency in the technical and training management of the department.
- Author of relevant publications in national and international scientific and popular journals in the field of healthcare technology and clinical engineering.

Researcher – R&D Group

University of Seville

- I participated in a research group at the University of Seville, where I developed custom software for an R&D project in collaboration with Virgen del Rocío University Hospital. This experience allowed me to apply my biomedical engineering knowledge to the technological development of clinical monitoring systems and hospital workflows.

Model and Commercial Actor

Blow Models, Madrid, Spain (2019 – Present)

Fashion and advertising model.

Commercial actor in campaigns for:

- Pepsi (2023)
- Alcampo (2024)
- Mobilize (Renault) (2024)
- Decathlon (julio 2024)

Runway model at **Madrid Fashion Week 2025**

Web Layout Designer

FP Ergos, Seville, Spain (October 17, 2023 – Present)

- Web layout designer for vocational training courses.

Sales and Commercial Assistant – Wine Division

Gastropass, Marketing and Advertising Agency, Seville, Spain (December 10, 2019 – January 13, 2020)

- Responsible for commercial management and wine sales.

Private Tutor

(2018 – Present)

- Tutor in mathematics, physics, and chemistry for secondary school, high school, and university students.

Karate Instructor

Nippon Sora Club, Seville, Spain (2018 – 2020)

- Black belt instructor teaching children and teenagers.