# Jaime Criado Martin

# Biomedical Engineer

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## PROFESSIONAL SUMMARY

Results-driven Biomedical Engineer with a strong foundation in medical imaging analysis, software development, and cardiovascular modeling. Skilled in tackling complex medical challenges and developing innovative, data-driven solutions. Experience in collaborating with cross-functional teams to deliver innovative healthcare technologies. Highly adaptable and eager to explore various opportunities to advance healthcare through technology and innovation.

## TECHNICAL SKILLS

#### Programming Languages & Tools

- Python (Advanced): NumPy, SciPy, Pandas, Matplotlib, scikit-learn, PyVista, SimpleITK, Open3D
- AI/ML: TensorFlow, PyTorch, YOLO, OpenCV, Keras
- Web Development: JavaScript (ES6+), React.js, HTML5, CSS3, RESTful APIs
- Version Control & IDE: Git, Visual Studio Code, MATLAB

#### Medical Software & 3D Modeling

• 3D Slicer (Advanced) | Blender | Medical Imaging Processing | Biomodel Development

#### Domain Expertise

- Medical Image Analysis | Signal Processing | Biomechanics | Cardiovascular Modeling
- Machine Learning in Healthcare | Computer Vision | Deep Learning | Data Analytics

## Professional Experience

#### **Biomedical Engineer**

Aug 2024 - Dec 2024

Valladolid, Spain

#### Hospital Clinico Universitario Valladolid ICICOR

- Lead development of biomodels for ascending aorta analysis in pre- and post-TAVI patients
- Implement advanced 3D registration techniques for accurate deformation calculations
- Conduct statistical analysis of patient outcomes and treatment effectiveness
- Collaborate with clinical teams to optimize analysis workflows and improve patient care
- Technologies: Python (NumPy, SimpleITK, Pandas, Matplotlib), Plotly Dash, 3D Slicer, Blender

#### Software Developer

Jan 2024 - Jul 2024

Stockholm, Sweden

#### KTH Royal Institute of Technology

- Engineered custom software solutions for Abdominal Aortic Aneurysm (AAA) analysis
- Developed automated geometric feature extraction algorithms for 3D aortic models
- Computational fluid simulation and biomodeling
- Implemented data analysis pipelines to process and visualize patient data
- Collaborated with international research teams to enhance analysis methodologies
- Technologies: Python (PyVista, NumPy, Pandas, Matplotlib, Tkinter)

#### **EDUCATION**

#### Bachelor's Degree in Biomedical Engineering

2020 - 2024

University of Valladolid

Valladolid, Spain

- Relevant Coursework: Medical Imaging, Signal Processing, Biomechanics, Machine Learning
- Senior Thesis: "Geometric Features Extraction and Analysis of Abdominal Aortic Aneurysms"

Secondary Education - Science and Technology Track

2018 - 2020

Colegio Nuestra Señora de Lourdes

Valladolid, Spain

## Personal Projects

#### Software Development Portfolio

2022 - Present

Open Source Projects

github.com/Jaimecm02

- Developed multiple data science projects using Python ecosystem (NumPy, scikit-learn, Matplotlib, SciPy) for data analysis and visualization
- Built responsive web applications with modern stack (React.js, JavaScript, HTML5, CSS3) implementing RESTful APIs
- Created automated data processing pipelines and interactive dashboards
- All projects are documented and available on GitHub with detailed README files

## Volunteer Experience

#### Volunteer Social Assistant

Asalvo

Valladolid, Spain

- Support community initiatives providing assistance to homeless individuals and disadvantaged families
- Developed strong interpersonal skills through direct interaction with vulnerable populations

# AWARDS & ACHIEVEMENTS

- $\bullet\,$  Sergio Marchionne Scholarship (2022) Awarded for academic excellence
- Cambridge English: C1 Advanced Certificate (CAE)
- Online Course: Introduction to AI and Prompt Engineering Microsoft and Founderz (2025)

# Languages & Additional Information

Languages: Spanish (Native), English (C1 Advanced)

Mobility: Valid Class B Driver's License, Personal vehicle available, Available for relocation or travel as required. Interests: Medical Image Processing, Machine Learning in Healthcare, 3D Modeling & Simulation, Healthcare Technology

Innovation

Other Hobbies: Basketball, Running, Video games, Reading