

Rafael Ferrín Pozuelo

Curriculum Vitae

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Tsukuba, Japan

Summary

Outstanding on geometric analysis, mechanical design and **creative solutions**.

Creative person, **motivated by challenges**.

My goal is to work on challenging projects where my skills make the difference.

Professional Experience

April 2023 Present	Research assistant at AIST (as PhD student)
September 2019 March 2023	Robot School teacher
December 2017 April 2020	Researcher at Iwate University (2 patents)
October 2014 September 2016	Vice President of Engineering at 16Lab Inc. (5 patents)
January 2013 February 2014	Design Engineer at FACC
July 2008 January 2013	R&D Engineer at GRVC (1 Patent)

Research assistant at AIST

- Member of the Field Robotics Research Team at the Cyber-Physical Systems Research center (AIST).
- Research about inflatable robots, pneumatic logic systems and micro-valves.

Robot School teacher at Human Academy

- Guiding students to understand and enjoy mechanical design with Lego-like construction blocks.
- Custom mechanical designs for advanced students.

Mechanical research at Iwate University.

- Research and prototyping of forestry tools for felling trees, including hydraulic technology, light weight prototypes, mini-chainsaw prototypes, etc.
- R&D of my own robotic designs. **1 patent** granted (robotic joint), **1 patent** in process (gearbox).

Vice President of Engineering at 16Lab Inc.

- Development of methods and procedures for interaction with wearable devices. (**3 patents**).
- General and proprietary algorithms for orientation, gesture recognition and activity tracking.
- Proprietary algorithms for cooperating/coordinating with other devices. (**2 patents**).
- We won several prizes, including **CEATEC 2015 Innovation Awards**, Home Entertainment category.

Design Engineer at FACC

- Problem-solving oriented **design of furniture** (mechanisms), focused on conceptual design.
- **More than 9 designs** considered novelty inventions (hinges, overhead bins turning systems, etc.).
- Advice and conceptual contributions solving a variety of mechanical design issues.
- General advise about sensors, motors, power consumption, usability, human factors, etc.

GRVC (Robotic, Vision and Control Group)

- Main researcher for the ROBOCA project for **IBERDROLA**: **design of an inspection robot** to inspect possible cracks or leaks in a power plant (dark-wet-hot-small places in a corrosive atmosphere).
- Design and construction of the prototype for this robot (Mechanics, optics, computer vision...).
- Results deemed better than expected by the company; they decided to commercialise our product.
- **INSROCA project**: further development of the prototype for commercial use. (**1st patent**).

Education

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|----------------------|---|
| 2023 2026 (expected) | PhD at University of Tsukuba (Pneumatic logic systems) |
| 2005 2011 | Master of Automatic and Electronic Systems Engineering. |
| 2001 2005 | Bachelor of Industrial Engineering |

My master thesis: “**Analysis and design of a vision system for inspection robots**” obtained the highest qualification (**Outstanding, A**).

Patents & Projects

- Patents
 - [Inspection robot](#)
 - [Algorithm for wearables \(1\)](#)
 - [Algorithm for wearables \(2\)](#)
 - [Algorithm for wearables \(3\)](#)
 - [Algorithm for wearables \(4\)](#)
 - [Algorithm for wearables \(5\)](#)
 - [Human-Friendly joint](#)
- R&D experience
 - Inspection robots (mechatronics)
 - Furniture for business jets (mechatronics)
 - Forestry drilling tools for elderly population
 - Algorithms for wearables
- Current research
 - High ratio gearbox
 - Human-Friendly joint

Skills

- Engineering skills
 - Common sense
 - [Lateral thinking](#)
 - CATIA and SolidWorks
 - Matlab & general programming
 - Multidisciplinary analysis
 - Geometry, maths & physics
 - 3D printing and prototyping
- Languages skills
 - Spanish (Native)
 - English (Business level)
 - Japanese (basic spoken skills)
- Soft skills
 - Proactive
 - Sharp mind under pressure
 - Multicultural experience

Personal Experience and Hobbies

- Founder of [ESTIEM](#) Seville
- Founder of [ESlbot](#) (Robotics)
- Founder of TIR (IT workshop)
- Member of IEEEsb
- Founder of [Sevilla Intercambio](#) (Language meeting)
- Theatre and Musical theatre
 - Actor (14 years, 20+ projects)SS
 - Scenography (10+ projects)
 - Managing Director (10+ projects)
- Food enthusiast
- Salsa dance aficionado
- Furniture design

References

www.ferrin.org
[LinkedIn Profile](#)