UNAI EIBAR ARAMBARRI

PhD student in applied engineering

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SUMMARY

I am currently completing my PhD studies, focusing on fracture mechanics and the finite element method. After finishing my thesis, I aspire to obtain a research position in a research and development department. In this role, I aim to contribute to various topics related to mechanical engineering, structural analysis and finite element method simulations.

SKILLS

Programming: MATLAB, Python, Fortran, LaTeX.

Softwares: ABAQUS, ANSYS Workbench, PTC Creo, NX.

Languages: **Spanish**, **Basque** - Native | C1, **English** - B2, **French** - B1

EXPERIENCE

Since 9/2023 **Predoctoral researcher** — **CEIT Centro Tecnológico (BRTA). Donostia/San Sebastián, Spain.**
Developed my thesis in applied engineering, fully working on the SUREWAVE project. At the end of the project, a digital twin of the case study was presented, capable of analysing the structural integrity of the part and making a prediction of its remaining life based on crack propagation.

Since 9/2024 **Teaching collaborator** — **Tecnun, Universidad de Navarra. Donostia/San Sebastián, Spain.**
Assisted the lecturer in practical Mechanics II classes, conducting Multibody Simulations (MBS) using the commercial software Creo Parametric.

2/2023 – 7/2023 **Research intern** — **I2M – Institut de mécanique et d'ingénierie. Bordeaux, France.**
Realized my master thesis developing a multi-technology human-robot automatic disassembly cell to recover components from End of Life products to intensify Circular Economy, linked to the SDC2 project.

PROJECTS

European project **SUREWAVE** — **SUREWAVE webpage**
The main objective of the project was to develop and test an innovative concept of a Floating Photo-Voltaic (FPV) system consisting of an external floating breakwater structure made of new circular materials acting as protection against severe wave loads on the FPV structure itself, allowing increased operational availability and energy output. Research laboratories and industrial partners from Norway, the Netherlands, Germany and Spain were involved.

National project **SDC2 – Smart disassembly for circularity** — **SDC2 webpage**
Circular economy can be seen as recycling, but this project wanted to promote higher value recovery thanks to component or module recovery. In SDC2, a multi-technology human-robot automatic cell was developed to test and define some potential disassembly lines. The platform development involved 6 French laboratories and industrial partners and started at the end of 2022.

PUBLICATIONS

Conferences **2 articles**
Presented two articles linked to my investigation in SUREWAVE in GEF (2024) and VI. MZT (2024).

Journals **1 article in an idexed journal**
For more information about the publications, it is available in **ueibar.github.io**.

EDUCATION

Since 2023 **PhD in Applied Engineering** — **Tecnun, Universidad de Navarra. Donostia/San Sebastián, Spain.**
Relevant course work: Fracture Mechanics, FEM, Scanning Electron Microscope (SEM), LaTeX, Fortran.

2021 – 2023 **Master degree in Mechanical Engineering** — **Universidad del País Vasco (UPV/EHU). Bilbao, Spain.**
Relevant course work: Mechatronics, Robotics, Structural Dynamics, Fatigue Design, Material Behaviour, Advanced Mathematics, Manufacturing Processes, Composite Materials.

2022 – 2023 **Research Master in KIMP: Advanced Production Systems** — **Arts et métiers (ENSAM). Lille, France.**
Relevant course work: Mechatronics, Robotics, AI, Operational Research, Machine Learning.

2017 – 2021 **Bachelor degree in Mechanical Engineering** — **Universidad del País Vasco (UPV/EHU). Bilbao, Spain.**
Relevant course work: Mechanical Design, CAD/CAM, Fluid Dynamics, Supply Chain Management, Materials Science.

HOBBIES

Sports : Cycling, running, basketball, football, handball; **Literature and cinema**; **Nature and travelling**