

Unai Sainz de la Maza Gamboa

Bilbao, Spain
+34 691536039

GitHub: github.com/usainzg
Email: unaihtc70@gmail.com

Education

University of Basque Country UPV/EHU	2023 – Present
<i>PhD Student in High Performance Computing</i>	<i>Donostia, Spain</i>
University of Basque Country UPV/EHU	2022 – 2023
<i>Master's Degree in Computational Engineering and Intelligent Systems</i>	<i>Donostia, Spain</i>
University of Basque Country UPV/EHU	2017 – 2022
<i>Bachelor's Degree in Informatics Engineering</i>	<i>Donostia, Spain</i>

Experience

PhD Student in High Performance Computing	Jun. 2023 – Present
<i>Donostia International Physics Center and University of the Basque Country</i>	<i>Donostia, Spain</i>
Machine Learning Engineer	Jun. 2022 – May. 2023
<i>Multiverse Computing</i>	<i>Donostia, Spain</i>
<ul style="list-style-type: none">Implemented a computer vision deep learning solution for defect detection problem. Worked on tensorizing classical deep learning solutions using Tensor Decompositions, e.g., CP, Tucker and Tensor-Train decompositions.Worked on predictive maintenance problem with multi-instance learning (MIL) and quantum-based ensemble machine learning methods.	
Machine Learning Engineer Intern (Research Team)	Feb. 2022 – Jun. 2022
<i>Multiverse Computing</i>	<i>Donostia, Spain</i>
<ul style="list-style-type: none">Researched gate-based quantum extreme learning machine algorithm applied to classifications tasks.	

Achievements

Patent registered in the European and United States Patent and Trademark Office	
<i>Multiverse Computing</i>	2024
<ul style="list-style-type: none">US20240095586A1	
Bachelor's thesis with honors	Quantum Extreme Learning Machine for Classification Tasks
<i>University of Basque Country UPV/EHU</i>	2022

Publications

Boosting Defect Detection in Manufacturing using Tensor Convolutional Neural Networks	
<i>arXiv:2401.01373</i>	2023

Specialized Skills

Programming Languages: Python, C, C++, Rust.
High Performance Computing: CUDA, OpenMP, MPI, Slurm.
Technologies: Linux, MLIR, LLVM, Pytorch, Docker, AWS.

Languages

Spanish & Basque – Native.
English – Fluent.