

## Aritz Lizoain

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## EDUCATION

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2016 - 2020 **Universidad de Cantabria (UC)**

**Santander, Spain**

*Bachelor of Science in Physics*

**Relevant courses:** Advanced Computation, Programming, Numerical Methods, Laboratory Computational Tools, Advanced Experimental Techniques (with honors), Ordinary and Partial Differential Equations, Linear Algebra, Differential and Integral Calculus.

**Relevant topics:** Data processing, numerical analysis, object-oriented programming, probability and statistics, software development.

2018 - 2019 **Universität Zürich (UZH) / Erasmus+**

**Zürich, Switzerland**

*Bachelor of Science in Physics*

**Relevant courses:** Statistical Mechanics and Molecular Simulations.

## EXPERIENCE & PROJECTS

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### CNN Image segmentation

*Duration: 7 months*

- Initiated a deep learning implementation focused on dark matter searches.
- Developed a multi-class image segmentation software.
- Pre-processed simulated and real data.
- Built and optimized neural network structures and parameters.
- Trained and evaluated machine learning models.
- Employed numerous Python packages: TensorFlow, Keras, scikit-learn, OpenCV-Python, scikit-image, Pandas, NumPy, Matplotlib.
- As a result of the obtained exceptional results, earned the opportunity to contribute in the 'DarkMachines' collaboration.

### MD simulation

*Duration: 5 months*

- Designed and developed a molecular dynamics software in Java, obtaining an outstanding grade in the Advanced Computation course.
- Gained insight in software modeling (UML), computational complexity and algorithmic efficiency.
- Focused on specific customer needs: experience, modularity and performance.
- Established excellent group communication and organization.

## TECHNICAL SKILLS

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- Python
- Java
- MATLAB
- SQL
- Wolfram Mathematica

## LANGUAGES

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- Spanish (native)
- Basque (native)
- English (advanced C1)
- French (intermediate B1)

## INTERESTS

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- Reinforcement learning (RL)
- Algorithmic trading
- Sports analytics