

# Edgar Garriga | Curriculum Vitæ

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*"If you can dream it, you can do it"*

## Research Experience

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### Medesins Sans Frontieres

Barcelona, Spain

September - Present '24

**ICT Emergency Response Reference.** Provide solutions for communication and security in **emergency** and unstable context. Working in projects for Sudan, Chad or Palestina. Where the contexts are a dynamic challenge. National and international team using multiple technologies and solutions depending on the needs and availability of that specific region.

### Barcelona Supercomputing Center

Barcelona, Spain

June - September '24

Workflow Management Software Engineer in Earth Science department. Develop the workflow manager Autosubmit in Python for HPC. In charge of deliverables (workflows, provenance) for projects financed by the European Commission, European Digital Twin Ocean EDITO and Destination Earth Climate Digital Twins

### Sanger Institute

Hixton, United Kingdom

February - November '22

Senior **Bioinformatician** in the Human Genetics Informatics (HGI) group. Transforming the pipelines of the scientists to **Nextflow** framework. Another task was to improve and refactor pipelines and improve the analysis to increase the **scalability** and the **reproducibility**

### Center of Regulation Genomics

Barcelona, Spain

2017–2022

**New algorithmic contributions for large scale multiple sequence alignments of protein sequences.**

The main goal is to implement a new **MSA** algorithm to align large datasets. Another part is developing reproducible pipelines with **Nextflow** and running them in the cloud using **AWS**, **Docker**, or **Conda**. I published multiple articles in scientific journals.

### Google Summer of Code

Barcelona, Spain

Summer 2018

**Implement the support for Research Object specification into Nextflow framework.**

I obtained a Google grant to develop the ResearchObject in Nextflow. I was using **Groovy** to add the functionality into the core using **Github** to collaborate with mentors. The developed provenance feature is used in **Nextflow**, and the project was presented at international conferences.

### Universitat Autònoma de Barcelona

Barcelona, Spain

September 2017

**MSA for the Big Data era.**

For the MSc thesis, I implemented an algorithm to perform high-scale MSA. I wrote it in **C/C++** and **Python**, using the container's technology to ensure **reproducibility** and **HPC-Cloud Computing**. I was able to publish an article showing the ability to **align 1.4 million sequences**.

**Simpson College**

**Indianola, USA**

*December 2016*

**Creating DNA Libraries Using Thermodynamics and Sequence Alignment Algorithms.**

For the Bachelor's undergrad capstone, I did a **web server** in an **international and multidisciplinary team**. The aim was to produce random DNA sequences with a user's specific temperature range. I used **JavaScript** and other web-oriented technologies to build all the required parts.

**Politechnika Lodzka**

**Lodz, Poland**

*January 2015*

**Noise Management at EU Airports, Case of Lodz.**

On the Erasmus+, the European Project Semester was proposed to perform a study about the noise of the Lodz's airport from a theoretical point of view and performing experiments in an anechoic room. I worked with an **analytical approach** and a practical proposal, using **databases** and the physics of the sound to solve it. A report was delivered with the analysis and the proposed solution, with a campaign to explain the study to the citizens.

## Humanitarian Experience

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**Emergency**

**Augusta, Italy**

*RHIB Driver/SAR Logistician Officer*

*September '23 - March '24*

RHIB Driver on the MV LifeSupport and instructor for the SAR team in the central Mediterranean operations. Logistician officer for the Search and Rescue team onboard, setting up the process and improving the system for the search and rescue department.

**Medecins Sans Frontieres, OCA**

**Augusta, Italy**

*SAR Technician*

*June-August '23*

SAR Technician in the MV Geo Barents for the SAR in the central Mediterranean operations

**Emergency**

**Augusta, Italy**

*RHIB Driver*

*March-June '23*

RHIB Driver on the MV LifeSupport and rescuer for the SAR in the central Mediterranean operations

**SOS Humanity**

**Burriana, Spain**

*RHIB Driver*

*November-January '22/23*

RHIB Driver on the MV Humanity 1 for the SAR in the central Mediterranean operations

**Salvamento Maritimo Humanitario**

**Athens, Greece**

*RHIB Driver*

*February '20*

RHIB Driver on the MV AitaMari for the SAR in the central Mediterranean operations

**Refugee Rescue UK**

**Lesbos, Greece**

*Volunteer*

*September-October '19*

Lifeguard of the RHIB for the SAR operations in the Aegean sea

**Proactiva Open Arms**

**Barcelona, Spain**

*Volunteer*

*December '18*

RHIB Skipper in the SV Astral for the SAR in the central Mediterranean operations

**Proactiva**

**Barcelona, Spain**

*Coordinator*

*Summer '18*

Coordinator of a team of 16 lifeguards in Mataro and skipper of the rescue jetski

**Proactiva Open Arms**

**Malta**

*Volunteer*

*July-August '17*

Lifeguard in the vessel Open Arms for the SAR in the central Mediterranean operations

**Proactiva Open Arms***Volunteer*

Lifeguard of the RHIB for the SAR operations in the Aegean sea

**Lesbos, Greece***April-May '17***Protección Civil***RHIB skipper, ambulance driver, lifeguard***Cartagena, Spain***June'10 - September'12*

## Education

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**Pompeu Fabra University***PhD in Bioinformatics*

Center of Regulation Genomics - Bioinformatics and Genomics Group

**Barcelona, Spain***2017-2022***Autonomous University of Barcelona***MSc in Bioinformatics*

Intern at Center of Regulation Genomics - Bioinformatics and Genomics Group

**Barcelona, Spain***2016-2017***UNISINOS***Computer Science*

Santander ILA scholarship

**Sao Leopoldo, Brazil***Spring 2016***Simpson College***Computer Science*

University of Murcia scholarship

**Indianola, USA***Fall 2015***Politechnika Lodzka***Computer Science*

Erasmus+ scholarship

**Lodz, Poland***2014-2015***University of Murcia***Computer Science,***Murcia, Spain***2010-2014*

## Teaching / Trainer

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**Nextflow Workshops***Online workshop*

Multiple workshops and tutorials for a diverse audience about Nextflow

**Barcelona, Spain****NGSchool***Online workshop*

How to build reproducible and scalable pipelines with Nextflow

**Barcelona, Spain***Summer '20***Pompeu Fabra University***Bachelor in Human Biology*

Supervisor on a project about selenoprotein annotation

**Barcelona, Spain***Fall '19***ESCI - Pompeu Fabra University***Bachelor in Bioinformatics*

Teaching algorithms and programming on clustering and Multiple Sequence Alignments

**Barcelona, Spain***Winter'18 '19 '20*

## Languages

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**Spanish/Catalan:** Mother tongue**English:** Advanced

C1

**French:** Medium**Italian:** Medium**Portuguese:** Elementary