

**Mireia** Yurrita Semperena

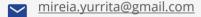
**DATE OF BIRTH:** 03/08/1996

#### CONTACT

Nationality: Spanish

**Gender:** Female

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## **ABOUT ME**

I consider myself a very enthusiastic and dynamic person, who enjoys learning. The desire to create technologies with a positive social impact is what motivates me to keep training as an engineer.

## **EDUCATION AND TRAINING**

24/09/2018 - 14/12/2020 - San Sebastian , Spain

Master of Engineering, MEng, Industrial Engineering

University of Navarra

Master's Thesis at the Massachusetts Institute of Technology:
 "Dynamic Urban Planning: pro-social incentive implementation using ABM". Score: 10/10

Final grade: 9.28/10

01/09/2014 - 17/09/2018 - San Sebastian, Spain

Bachelor of Engineering, BEng, Industrial Technology Engineering

University of Navarra

- Second highest score of the class
- Candidate for the Academic Excellence Award
- Bachelor's Thesis: "Development of a mathematical model of beam-engine contact in lifts and study of the application of magneto-sensitive rubber for vibration isolation". Score: 10/10

Final grade: 9.16/10

## **PUBLICATIONS**

 Dynamic Urban Planning: an Agent-Based Model Coupling Mobility Mode and Housing Choice. Use case Kendall Square.

In: Advances in Intelligent Systems and Computing (accepted, 2021) Other Authors: Grignard, A., Alonso, L., Zhang, Y., Jara-Figueroa, C., Elkatsha, M., Larson, K.

## **WORK EXPERIENCE**

01/09/2020 - CURRENT - Beasain, Spain

**Hydraulic Design Engineer** 

INDAR, Ingeteam Group

Main tasks include:

- 3D hydrodynamic design of radial, axial and semi-axial turbomachinery.
- Blade loading (pressure distribution) and flow behavior control applying Computational Fluid Dynamics (CFD)
- $^{\circ}$  Automatic multi-point / multi-objective optimization implementation using Al.

**28/10/2019 - 31/07/2020** - Cambridge, United States

Visiting Student

Media Lab, Massachusetts Institute of Technology

Development of a dynamic incentive system to promote prosocial development in cities.

- Application of Agent Based Modeling (GAMA platform, UMMISCO, IRD) and Machine Learning techniques (Python) to predict housing and mobility patterns.
- Exploration of policies that lead to more vibrant and diverse communities.
- This project was part of the CityScope line of work in the City Science group.

https://www.media.mit.edu/people/myurrita/overview/

#### 02/07/2018 - 24/09/2018 - Hernani, Spain

# Summer Intern in the Mechanical Engineering Department IDEO Orona

• Vibration isolator calculation tool improvement in Matlab

## **09/01/2018 - 29/06/2018** - San Sebastian, Spain

## **Intern in the Mechanical Engineering Department**

**CEIT Research Centre** 

- Development of my Bachelor's Thesis in liaison with the Mechanical Engineering team at IDEO Orona.
- Original title: "Desarrollo de un modelo matemático del contacto motor-armadura en ascensores y estudio de la aplicación de elastómeros magneto-sensibles para el aislamiento de vibraciones"

#### 01/06/2017 - 04/08/2017 - Hernani, Spain

## Summer Intern in the Mechanical Development Department IDEO Orona

- Creation of a Matlab GUI to optimize the direction of lift cars based on the Strength of Materials elastic equation.
- Design of a mock-up using SolidWorks for testing load weighing sensors.

#### 01/06/2016 - 29/07/2016 - San Sebastian, Spain

#### Summer Intern in the Fluid Mechanics team

Tecnun - University of Navarra

- Study of the parametric model of turbine blades using Matlab
- Deepening of Computational Fluid Dynamics (CFD) Methods.

### **01/06/2015 - 31/07/2015** - San Sebastian, Spain

#### Summer Intern in the Strength of Materials team

Tecnun - University of Navarra

 Matlab software design for the calculation of deformation, shear stress and bending moment in beams using the Method of Finite Differences.

## TEACHING EXPERIENCE

#### 01/09/2015 - 08/09/2017

**Basic Mathematics Course Collaborator at Tecnun, University** of Navarra

Collaboration helping first year engineering students refresh basic mathematical concepts through practical sessions. This Course is held every year during the first week of September. I was a collaborator in three consecutive years.

## HONOURS AND AWARDS

International Connecting Talent Fellowship – Fomento de San Sebastián

Global Internship Program 2019 Fellowship - Caja Rural de Navarra

Universidad de Navarra - Grupo Santander Fellowship - Banco Santander

## **DIGITAL SKILLS**

## **Programming**

Matlab / GAML (Java based) / Python / C++ / Labview / Git Others

Microsoft Office / Tableau / modeFrontier / SolidWorks / PTC Creo / Axcent/Pumpal (CAE) / GIS / ANSYS

## LANGUAGE SKILLS

MOTHER TONGUE(S): Basque / Spanish

**OTHER LANGUAGE(S):** 

**English** 

<b>Listening</b> C2	<b>Reading</b> C2	Spoken production C1	Spoken interaction C1	<b>Writing</b> C1
French Listening C2	<b>Reading</b> C2	Spoken production C1	Spoken interaction C1	<b>Writing</b> B2
German Listening B2	<b>Reading</b> B2	Spoken production B2	Spoken interaction B1	<b>Writing</b> B1

## LANGUAGE CERTIFICATES

13/10/2018 - CURRENT

IELTS Academic Module 8.0

13/11/2014 - CURRENT

DALF C1 (Diplôme approfondi de langue française)

10/09/2019 - CURRENT

Goethe-Zertifikat B2