Aurora Cobo Aguilera

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LinkedIn: https://www.linkedin.com/in/aurora-cobo-aguilera-9a8823117/

Gender: Female   **Date of birth:** 02/06/1994   **Nationality:** Spanish

EDUCATION AND TRAINING

[01/09/2018 – 15/12/2022]

PhD in Machine Learning

Universidad Carlos III de Madrid   https://www.uc3m.es/doctorado/tratamiento-señales-ingenieria-comunicaciones#antiguoprograma

City: Madrid

Country: Spain

Field(s) of study: Engineering, manufacturing and construction: *Engineering, manufacturing and construction not elsewhere classified* | Natural sciences, mathematics and statistics: *Mathematics and statistics not further defined*

Final grade: Cum Laude   **Level in EQF:** EQF level 8

Thesis: Probabilistic Models and Natural Language Processing in Health

I have developed a PhD in the field of Machine Learning. More specifically, I focus on Natural Language Processing (NLP) and Probabilistic models with application in Mental Health.

During these 4 years, I have enjoyed a scholarship form Spanish Government called FPU with reference FPU17/03895.

[07/2017]

Internship in Machine Learning during the PhD

Stevens Institute of Technology and Columbia University

City: New York

Country: United States

I received two weeks of formation in the field of Machine Learning, more specifically Probabilistic Models. The internship took place at two universities in New York (USA), Stevens Institute of Technology (https://www.stevens.edu/), mainly, and Columbia University (http://www.columbia.edu/).

[01/09/2016 – 26/07/2018]

Master's degree in Multimedia and Communications (English)

Universidad Carlos III de Madrd   https://www.uc3m.es/master/tecnologias-avanzadas-comunicaciones

City: Madrid

Country: Spain

Field(s) of study: Natural sciences, mathematics and statistics: *Inter-disciplinary programmes and qualifications involving natural sciences, mathematics and statistics* | Engineering, manufacturing and construction: *Engineering, manufacturing and construction not elsewhere classified*

Final grade: 9.23   **Level in EQF:** EQF level 7

Type of credits: ECTS   **Number of credits:** 60

Thesis: Applying robust estimations for mini-batch sample selection in deep learning

Master degree with the following subjects and a total of 3 Honours:
- Signal Processing Applications
- Signal Processing in Communications
- Speech and Audio Processing
- [High Frequency Technology](#)
- [Advanced Signal Processing](#)
- Machine Learning
- Computer Vision
- Machine Learning Applications

During the master 2017-18 year I have received a scholarship called 'Ayudas al estudio de másteres universitarios' by the uc3m (M01-1718-1A) to perform researching and teaching tasks in the Department of Signal Theory and Communications.

[01/09/2016 – 12/07/2018]

Master's degree in Telecommunications Engineering

Universidad Carlos III de Madrid   https://www.uc3m.es/master/ingenieria-telecomunicacion#programa

City: Madrid

Country: Spain

Field(s) of study: Engineering, manufacturing and construction: *Engineering, manufacturing and construction not elsewhere classified* | Information and Communication Technologies: *Information and communication technologies not elsewhere classified*

Final grade: 8.85   **Level in EQF:** EQF level 7

Type of credits: ECTS   **Number of credits:** 90

Thesis: The exploration of psychiatric profiles through latent variable models
I have obtained a total of 5 Honours among the subjects:
- [Design and Operation of Communication Networks](#)
- [Advanced Multimedia Services](#)
- [Electronic Circuit Design for Communication](#)
- [Radio Frequency and Antenna Subsystems](#)
- [Data Processing](#)
- [Design of Telematics Applications](#)
- [Electronic Instrumentation and Optoelectronics](#)
- [Design and Simulation of Communication Systems](#)
- [Advanced Techniques in Signal Processing and Communications](#)
- [Project Management and Telecommunications Policy](#)
- [Multidisciplinary Applications of Information Technology and Communications](#)
- [Advanced Signal Processing](#)
- Computer Vision

[01/09/2012 – 25/07/2016]

Bachelor's Degree of Telecommunication Technologies Engineering

Universidad de Málaga   https://www.uma.es/grado-en-ingenieria-de-tecnologias-de-telecomunicacion

City: Málaga

Country: Spain

Field(s) of study: Information and Communication Technologies: *Information and communication technologies not elsewhere classified* | Engineering, manufacturing and construction: *Engineering, manufacturing and construction not elsewhere classified*

Final grade: 9.21   **Level in EQF:** EQF level 6

Type of credits: ECTS   **Number of credits:** 240

Thesis: Subwavelength dielectric structures for sensing applications in visible spectrum
I have performed the bachelor's degree in Engineering of Telecommunication Technologies with the best record of my promotion, average grade of 9.21 and **24 honours** and different prizes regarding 'the best trajectory' and 'the best End of Studies work'.

The main areas of study are data and signal processing, computer sciences, photonics, high frequency technologies, communication systems, electronics,...
During this period I have received a scholarship in the department of Communications in University of Malaga. It is called '**Beca de Colaboración con los Departamentos**' from Spanish Government (MECD, BOE-A-2015-8852).The education received has been in the field of **photonics**.

WORK EXPERIENCE

[01/09/2023 – Current]

Research Scientist

Genaios

City: Valencia

Country: Spain

Research in Natural Language Processing for solving tasks like fact checking, plagiarism detection and AI content generation.

[01/11/2022 – 31/07/2023]

Teacher in Big Data National projects "Actualízate" and "Hackea tu futuro"

The Valley Digital Business School   red.es

Country: Spain

Business or sector: Education

I'm part of a National project to teach Artificial Intelligence in all levels of Academia thank to red.es. I'm in charge of python programming and Machine Learning modules as teacher, responsible of the whole module, 40h/week, including material and sessions.

[01/06/2021 – 30/11/2021]

Internship Data Scientist

Huawei   https://www.huawei.com/en/

City: Dublin

Country: Ireland

Business or sector: Professional, scientific and technical activities

The internship took place in remotely mode during my third year of Phd for *Huawei Ireland Research Center*.
The work consisted in **Machine Learning** tasks, specifically in **Natural Language Processing**, in AISafe team. Among many works, I focused in data processing, *data augmentation* and classification.

Huawei Manager: Tri Kurniawan Wijaya, tri.kurniawan.wijaya@huawei.com
PhD advisor: Antonio Artés Rodríguez: +34 696979435 aartes@ing.uc3m.es

[01/09/2021 – Current]

Teacher in NLP course

BBVA

City: Madrid

Country: Spain

Business or sector: Education

During this stage I have participated in different editions of a **Machine Learning** course given to BBVA employees, more specifically, in the field of **Natural Language Processing**. It focus in tools such as text processing, regular expressions, embedding construction, clustering, classification and topic modelling.
I'm in charge of tutoring the students for the developing of the practical sessions. All is performed in remote mode.

Emilio Parrado Hernández: eparrado@ing.uc3m.es
Pablo Martínez Olmos: +34 916248875 olmos@tsc.uc3m.es

[01/10/2016 – 15/01/2023] ## Researcher and Teacher in the Department of Signal Theory and Communications

Universidad Carlos III de Madrid (uc3m) http://gts.tsc.uc3m.es/

City: Madrid

Country: Spain

Name of unit or department: Signal Theory and Communications

Business or sector: Education

Researching in Machine Learning, focused in Deep Learning, Bayesian approach and Natural Language Processing. During these years I have obtained different scholarships and contracts.

- October 2016 - August 2017: Project titled "Advanced Bayesian computation methods for estimation, prediction and control in multi-sensor complex systems (ADVENTURE)", reference TEC 2015-69868-C2-1-R, MINECO.
- September 2017 - August 2018: Scholarship denominated 'Beca de Ayudas al Máster' by the uc3m, M01-1718-1A.
- September 2018 - 2022: Scholarship called FPU from Spanish Government, FPU17/03895.

The university teaching during these years has been developed in Bachelor's degrees from Telecommunications Engineering and Data Sciences and the Master's degree of Machine Learning applied to Health.

- 2 courses in 'Communication Theory' and 'Systems and circuits' in Bachelor's degrees from Telecommunications Engineering.
- 1 course in 'Communication Theory' in the English edition of Bachelor's degrees from Telecommunications Engineering.
- 1 course in 'Neural Networks' in the English Bachelor's degree of Data Science
- 2 courses in 'Data Modelling' and 'Deep Learning' in the English Master's degree of 'Machine Learning in Health'.

Tutors:
Antonio Artés Rodríguez: +34 696979435 aartes@ing.uc3m.es
Pablo Martínez Olmos: +34 916248875 olmos@tsc.uc3m.es

[01/09/2016 – 30/06/2020] ## Particular Teacher

Freelance

City: Madrid

Country: Spain

Business or sector: Education

During these years that coincide with my master and doctoral studies, as complement I have performed temporal works as particular teacher, both in Secondary and Primary School and above all, at University level. In this last sector I have focused in Maths and Physics courses common or related to my Telecommunications Engineering background.

LANGUAGE SKILLS

Mother tongue(s): Spanish

Other language(s):

English

LISTENING C1 **READING** C1 **WRITING** C1

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

French

LISTENING A1 **READING** A1 **WRITING** A1

SPOKEN PRODUCTION A1 **SPOKEN INTERACTION** A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Machine Learning | Big Data | Deep learning | Python | C | C++ | Natural Language Processing (NLP) | Computer Vision | Data Mining | LaTex | Artificial intelligence | Organizational and analytical skills | Microsoft Microsoft Office | Hard-working | Data Science | Data Collection, Data Processing, Data Analysis, Data Visualization | java programing | Matlab programing

PUBLICATIONS

[2023] **Regularizing transformers with deep probabilistic layers**

Reference: Aurora Cobo Aguilera, Pablo M- Olmos, Antonio Artés-rodríguez, Fernando Pérez-Cruz
Link: https://www.sciencedirect.com/science/article/abs/pii/S0893608023000448

[2021]

Disturbed sleep as a clinical marker of wish to die: a smartphone monitoring study over three months of observation

Reference: https://doi.org/10.1016/j.jad.2021.02.059

Alejandro Porras-Segovia; Aurora Cobo; Isaac Díaz-Olivan; et al;. 2021. Disturbed sleep as a clinical marker of wish to die: a smartphone monitoring study over three months of observation Journal of affective disorders. Elsevier. 286, pp.330-337

[2021]

Patients at high risk of suicide before and during a COVID-19 lockdown: ecological momentary assessment study

Reference: https://doi.org/10.1192/bjo.2021.43

Aurora Cobo; Alejandro Porras-Segovia; María Mercedes Pérez-Rodríguez; Antonio Artés-Rodríguez; Maria Luisa Barrigón; Philippe Courtet; Enrique Baca-García. 2021. Patients at high risk of suicide before and during a COVID-19 lockdown: ecological momentary assessment study BJPsych open. Cambridge University Press. 7-3.

[2021]

Psychiatric profiles of eHealth users evaluated using data mining techniques: cohort study JMIR mental health

Reference: doi: 10.2196/17116

Jorge Lopez-castroman; Diana Abad-Tortosa; Aurora Cobo Aguilera; Philippe Courtet; Maria Luisa Barrigón; Antonio Artés; Enrique Baca-García. 2021. Psychiatric profiles of eHealth users evaluated using data mining techniques: cohort study JMIR mental health. JMIR Publications Inc. 8-1, pp.e17116.

DRIVING LICENCE

Cars: B   09/2012

CONFERENCES AND SEMINARS

[30/09/2023 – 30/09/2023] **Synapse AI Symposium**   Milan, Italy
Link: https://synapsesymposium.ai/

[28/09/2023 – 29/09/2023] **EBMT - 15th Nurses Group Educational Meeting**   Madrid
Link: https://www.ebmt.org/nurses-group

[09/09/2019 – 13/09/2019] **Machine Learning Frontiers in Precision Medicine**   Basel (Suiza)

Link: https://mlfpm.eu/1-summer-school/

[26/08/2019 – 06/09/2019]   **Machine Learning Summer School**   Skoltech, Moscú (Rusia)
Link: https://smiles.skoltech.ru/mlss2019

[27/08/2018 – 07/09/2018]   **Machine Learning Summer School**   Universidad Autónoma, Madrid (España)
Link: http://mlss.ii.uam.es/mlss2018/index.html

[25/06/2018 – 29/06/2018]   **Data Science Summer School**   École Polytechnique. Paris (Francia)
Link: https://2018.ds3-datascience-polytechnique.fr/

HONOURS AND AWARDS

[05/2017]   **Award for the best trajectory in my Bachelor's degree Awarding institution:** AI TA-COIT

Award given at the XV Night of Telecommunications, organized by the Official College of Telecommunications Engineers of Eastern Andalusia and Melilla and by the Andalusian Association of Telecommunications Engineer.

[09/2016]   **Prize for the best Bachelor's degree Thesis Awarding institution:** Universidad de Málaga

[09/2016]   **Extraordinary end of studies award Awarding institution:** Universidad de Málaga

[06/2012]   **Global Honour during my High School Studies Awarding institution:** Spanish Government

HOBBIES AND INTERESTS

Sport

I am passionate about Crossfit and hard training. The same skills of demand and perseverance that I apply in my working life, I adopt in my sporting life. I like to take care of myself, eat well, feel agile and strong and be a functional and independent person.

Travel

Since I am financially independent, I have been adapting my situation to be able to travel the world in any way. I like to learn from other cultures, discover new corners and I'm not afraid to do it alone. I like to improvise getaways and in general, live. I have always dreamed of working remotely, living in a campervan and being able to become my dreams real while working on what most fulfills me personally.