

Amanda Duarte

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Education

- 2018–2022(expected) **Ph.D. student in Computer Science**, *Barcelona Supercomputing Center / Universitat Politècnica de Catalunya (UPC)*, Barcelona, Spain.
Marie Skłodowska-Curie fellow.
- 2015–2017 **Master's in Computer Engineering**, *Federal University of Rio Grande (FURG)*, Rio Grande, Brazil.
Master thesis: Dataset Generation for Computer Vision and Performance Analysis of Image Restoration Methods Applied to Underwater Environments.
- 2010–2014 **Degree in Internet Systems Technology / Systems Analysis**, *Sul-rio-grandense Federal Institute of Education, Science and Technology (IFSul)*, Pelotas, Brazil.
Spent a year at Northern Virginia Community College, USA as part of a student exchange program.

Scholarships and Awards

- 2021 **Outstanding Reviewer Award** – International Conference on Computer Vision (ICCV).
- 2018-2021 **Marie Skłodowska-Curie fellow** – INPhINIT Doctoral fellowship - "La Caixa" foundation.
- 2017 **Facebook/Caffe2 Research Award** - Facebook Research and Academic Relations Program - First author of the project proposal "Speech2Signs: Spoken to Sign Language Translation using Neural Networks". Winner of 1 out of 5 research award.
- 2015–2017 **National Agency of Petroleum, Natural Gas and Biofuels Scholarship** - Master thesis.
- 2013–2014 **Brazil Community College STEM Program** - Science without Border Scholarship.

Research experience

- Jun – present **Oxford University / Ecole des Ponts ParisTech**, *Visiting research student under the supervision of Dr. Samuel Albanie and Prof. Gul Varol.*
- 2021
- Feb – Jul **Carnegie Mellon University - CMU**, *Visiting research student at the Language Technologies Institute (LTI) under the supervision of Prof. Florian Metze.*
- 2019
- Jun – Aug **Johns Hopkins University - Frederick Jelinek Memorial Summer Workshop (JSALT)**, *Six-week-long research program on Machine Learning for Speech, Language and Computer Vision Technology. Part of the Grounded Sequence to Sequence Transduction group. www.clsp.jhu.edu/workshops/18-workshop/grounded-sequence-sequence-transduction/*
- 2018
- Sep 2017 – **Barcelona Supercomputing Center (BSC)**, *Visiting researcher working on multi-modal video-audio retrieval under the supervision of Prof. Jordi Torres and Xavier Giro.*
- May 2018
- Jun 2017– **Federal University of Rio Grande**, *Research Assistant*, Research and development on
- Sep 2017 Computer Vision and Robotics.
- Fev 2015 – **Grupo de Automação e Robótica Inteligente - Nautec, Universidade Federal do Rio Grande**, *Research and development in CNPq Brazilian project.*
- Jun 2017 Netuno: Proposed a novel method for underwater images restoration – Proposed a new underwater image dataset – Development of a model-based participating media simulator.

Selected publications

A. Duarte, S. Palaskar, L. Ventura, D. Ghadiyaram, K. DeHaan, F. Metze, J. Torres, X. Giro-i-Nieto. **How2Sign: A Large-scale Multimodal Dataset for Continuous American Sign Language**. In Conference on Computer Vision and Pattern Recognition (CVPR), 2021.

L. Ventura, **A. Duarte**, X. Giro-i-Nieto. **Can Everybody Sign Now? Exploring Sign Language Video Generation from 2D Poses**. Sign Language Recognition, Translation & Production (SLRTP) ECCV-Workshop. August, 2020.

L. Specia, R. Arora, L. Barrault, O. Caglayan, **A. Duarte**, D. Elliott, ... , J. Libovicky. **Grounded Sequence to Sequence Transduction**. In IEEE Journal of Selected Topics in Signal Processing, 2020. (Impact factor: 4.9)

A. Duarte. **Cross-modal Neural Sign Language Translation**. In 27th ACM International Conference on Multimedia - Doctoral Symposium. October, 2019.

A. Duarte, et al. **WAV2PIX: Speech-conditioned Face Generation Using Generative Adversarial Network**. In 44th International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2019.

J. Gaya, **A. Duarte**, F. Codevilla, P. Drews-Jr, S. Botelho. **Single Image Restoration for Participating Media Based on Prior Fusion**. In IEEE computer graphics and applications, 2019. (Impact factor: 1.6)

A. Duarte, G. Camli, J. Torres, X. Giro-i-Nieto. **Towards Speech to Sign Language Translation**. In European Conference on Computer Vision (ECCV) Workshop on Shortcomings in Vision and Language (SiVL), 2018.

D. Surís, **A. Duarte**, A. Salvador, J. Torres, X. Giró-i-Nieto. **Cross-modal embeddings for video and audio retrieval**. In ECCV workshop, 2018.

J. Gaya, L. Gonçalves, **A. Duarte**, B. Zanchetta, P. Drews, S. Botelho. **Vision-based obstacle avoidance using deep learning**. In Latin American Robotics Symposium, 2016.

A. Duarte, G. Zaffari, R. Rosa, L. Longaray, P. Drews, S. Botelho. **Towards comparison of underwater SLAM methods: An open dataset collection**. In IEEE OCEANS 2016-Shanghai, 2016.

A. Duarte, F. Codevilla, J. Gaya, S. Botelho. **A dataset to evaluate underwater image restoration methods**. In IEEE OCEANS 2016-Shanghai, 2016.

Research interests

Computer Vision, Pose Estimation, Sign Language Processing, Multi-modal Learning.

Open-source development projects

How2Sign Lead researcher in the creation of a large-scale multimodal dataset for continuous American Sign Language. (Available at: <https://how2sign.github.io/>)

Speech2Signs Lead researcher in the project that aims to automatically generate the translation of the speech signal into American Sign Language. (More info available at: goo.gl/h7e7Yb).

TURBID Dataset Lead researcher in the creation of a benchmark for underwater image restoration. (Available at: <http://amandaduarte.com.br/turbid>)

- Open-source repos Contributor to a number of open-source projects, including:
- o **Wav2Pix** - <https://github.com/imatge-upc/wav2pix/>
 - o **nmtpytorch** - <https://github.com/lium-1st/nmtpytorch/>
 - o **speech2signs-nmt** - <https://github.com/imatge-upc/speech2signs-2017-nmt/>

Grants

- Jun 2021 **Women in Computer Vision (WiCV) Workshop 2021** Travel grant award.
- Winter 2019 **Severo Ochoa outgoing Mobility Grant** - Barcelona Supercomputing Center.
- Oct 2019 **SIGMM ACM Multimedia** Travel Grant award.
- Sept 2018 **Women in Computer Vision (WiCV) Workshop 2018** Travel grant award.
- Dec 2017 **Women in Machine Learning (WiML) Workshop 2017** Travel grant award.
- Sep 2017 **Severo Ochoa incoming Mobility Grant** - Barcelona Supercomputing Center.

Service

- Reviewer ICCV'21, ACM-MM'21, MTSUMMIT'21, WICV-CVPR'21, ACM-MM'20, WiCV-CVPR'20, CV4A'20, CV4GC'19, ICASSP'19, WICV-CVPR'19, WICV-CVPR'18, WICV-ECCV'18, IEEE Transactions on Multimedia.
- Volunteer ACM-MM'19, NeurIPS'17, ECCV'16, ICCV'15
- PC The How2 Challenge - ICML'19

Teaching experience

- Winter 2021 **Master Course in Artificial Intelligence with Deep Learning**, *Teaching staff*, School of Professional & Executive Development - UPC, Barcelona, Spain.
- Winter 2020 **Master Course in Artificial Intelligence with Deep Learning**, *Teaching staff*, School of Professional & Executive Development - UPC, Barcelona, Spain.
www.talent.upc.edu/ing/estudis/formacio/curs/310401/postgraduate-course-artificial-intelligence-deep-learning/
- Spring 2020 **Master Course in Artificial Intelligence with Deep Learning**, *Teaching staff*, School of Professional & Executive Development - UPC, Barcelona, Spain.
www.talent.upc.edu/ing/estudis/formacio/curs/310400/postgraduate-course-artificial-intelligence-deep-learning/
- Autumn 2018 **Deep Learning for Artificial Intelligence**, *Teaching assistant*, Master Course at ETSETB TelecomBCN - Universitat Politècnica de Catalunya, Barcelona, Spain.
<https://telecombcn-dl.github.io/2018-dlai/>
- Autumn 2017 **Deep Learning for Artificial Intelligence**, *Teaching assistant*, Master Course at ETSETB TelecomBCN - Universitat Politècnica de Catalunya, Barcelona, Spain.
<https://telecombcn-dl.github.io/2017-dlai/>
- Sep 2017 **NVIDIA Deep Learning Institute Workshop**, *Teaching assistant*, Universitat Politècnica de Catalunya, Barcelona, Spain.
- Jun – Dec 2015 **Technical course in Systems for Internet**, *Assistant professor*, Universidade Aberta do Brasil (UAB), Balneario Pinhal, Brazil.

Student Supervision and Mentoring Experience

Universitat Politècnica de Catalunya - UPC

- 2020 **Lucas Ventura**, *MsC, co-supervised with Xavier Giró-i-Nieto.*

- 2020 **Peter Muschick**, *MsC, co-supervised with Xavier Giró-i-Nieto*, Thesis title: Learn2Sign: Sign Language Recognition and Translation using Human Keypoint Estimation and Transformer Model.
- 2020 **Pol Perez Granero**, *Bs, co-supervised with Xavier Giró and Kevin McGuinness*, Thesis title: 2D to 3D body pose estimation for sign language with Deep Learning.
- 2019 **Miquel Tubau**, *Ms, co-supervised with Xavier Giró-i-Nieto and Luis Antonio Belanche Muñoz*, Thesis title: Enhancement and evaluation of a speech-conditioned image generator.
- 2018 **Janna Escur**, *Bs, co-advise with Xavier Giró-i-Nieto, Marta Ruiz Costa-Jussa*, Bs thesis title: Exploring Automatic Speech Recognition with TensorFlow.

School of Professional Executive Development - UPC

- 2021 **Khoury Boutrous, Oscar Calaf, Jeannette Hernandez, Jose Olivert**, Ms final project: Human Video Activity Classification. <https://github.com/oscarcalafgmailcom/aidl2021-aidl2021-human-video-activity-classification>.
- 2021 **Enrique González Terceño, Sofia Limon, Gerard Pons and Celia Santos**, Ms final project: Device control using gestures. https://github.com/gesturesAidl/video_processor.
- 2020 **Abel Bernabeu, Albert Forgas, Calebe Monteiro, David Garcia**, Ms final project: Using autoencoders to compress and restore facial images <https://github.com/abel-bernabeu/autoencoder>.
- 2020 **Eloi Marimon Rollant, Quim Suazo Beneit, Magdalena Sztandarska, Daniel Garcia Tello**, Ms final project: Transformer Neural Sign Language Translation https://github.com/eloi-jamao/Sign_Transformer.

Programming skills

- Programming Python, C/C++, Matlab, PHP, HTML, CSS, SQL.
- DL libraries PyTorch, Keras, familiar with Tensorflow.
- Other \LaTeX , OpenCV, Adobe Photoshop, Adobe Lightroom.

Languages

- Portuguese Native
- English Fluent
- Spanish Intermediate