

## Experience

### Risk Modeling & Analytics Specialist @ UBS

September 2020 - Now

Member of the AI Development & Platform team. Working on applying the last advances on machine learning to solve non-financial risk management challenges.

Key Skills: Software Development, System Administration, Machine Learning, Python, JavaScript, React.js, HTML & CSS.

### Exchange Student @ ETH Zürich

February 2020 - July 2020

Exchange semester at the Computer Vision Laboratory of ETH Zürich. Worked under the supervision of Sergi Caelles, Dr. Martin Danelljan, Prof. Xavier Giró and Prof. Luc Van Gool.

- Published the master's thesis titled "Temporal Copying and Local Hallucination for Video In-painting". The thesis was graded with a 5.25 / 6.00 at ETH Zürich and with a 10.00 / 10.00 at the Polytechnic University of Catalonia.

Key Skills: Machine Learning, Software Development, Python, PyTorch, Numpy, Matplotlib & Research

### Research Intern @ Telefonica Research

June 2019 - November 2019

Six-month research internship at Telefonica Research. Worked under the supervision of Dr. Joan Serrà and Dr. Jordi Luque.

- Helped with the theoretical solution and implemented both the experiments and models (Glow and PixelCNN++) used in the paper "Input Complexity and Out-of-Distribution Detection with Likelihood-based Generative Models", accepted at the International Conference on Learning Representations of 2020.
- Created a tool to generate speech data sets from YouTube videos, published in my GitHub profile.

Key Skills: Machine Learning, Software Development, Python, PyTorch, Numpy, Matplotlib & Research

## Education

Polytechnic University of Catalonia

September 2018 - July 2020

### MSc. Telecommunications Engineering

Multimedia Intensification | GPA: 9.15 / 10.0 | Performance: 100.0%

Official 2-year master's program (120 ECTS) leading to the title of Telecommunication Engineer.

- Coursed "Machine Learning", "Computer Vision" and "Advanced Human Language Processing" as intensification subjects.
- 54.16% of the credits with a mark equal or superior to 9.00 / 10.00.
- Completed the master's thesis at ETH Zürich, one of the most competitive universities of the exchange program. The thesis was graded with a 10.00 / 10.00.
- Implemented the technical solution of a real business challenge along with students from ESADE Business School as part of the subject "Interdisciplinary Innovation Project", sponsored by ARAG. The subject was graded with a 9.60 / 10.00.
- Published the paper "Problem-Agnostic Speech Embeddings for Multi-Speaker Text-to-Speech with SampleRNN" at the 10th ISCA Speech Synthesis Workshop as part of the subject "Introduction to Research". The subject was graded with a 10.00 / 10.00.

Polytechnic University of Catalonia

September 2014 - July 2018

### BSc. Telecommunications Technologies and Services Engineering

Audiovisual Specialization | GPA: 7.72 / 10.0 | Performance: 100.0%

Official 4-year bachelor's program (240 ECTS) leading to the title of Technical Telecommunication Engineer.

- Coursed "Audio and Voice Signal Processing", "Image and Video Signal Processing", "Audiovisual Coding", "Acoustics and Electroacoustic", "Audiovisual Technology and Production" and "Multimedia Communications" as specialization subjects.
- 72.50% of the credits with a mark equal or superior to 7.00 / 10.00.
- Published the bachelor's thesis titled "Real-Time Stock Predictions with Deep Learning and News Scrapping", supervised by Prof. José Adrián Rodríguez Fonollosa. The thesis was graded with a 9.70 / 10.00.

### Email

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### Phone

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### Age

24

### Birthplace

Barcelona

### Location

Zurich

### Languages

Spanish (Native)



Catalan (Native)



English (C1)



### Courses

Algorithms Specialization

Stanford University (Coursera) - Diploma

Deep Learning Specialization

DeepLearning.ai (Coursera) - Diploma

### Skills

#### Topics

Software Development, Machine Learning, Algorithms, System Administration

#### Languages, Frameworks & Systems

Python, Java, C, PHP, SQL, HTML, CSS, JavaScript, jQuery, Angular, React.js, MATLAB

#### Machine Learning Libraries

PyTorch, Numpy, Pandas, Matplotlib

#### Soft Skills

Research, Entrepreneurship, Leadership, Public Speaking

#### Off Topic

SEO, Social Media Marketing, LaTeX, Photoshop

### Projects

#### Skeltorch

Repository

Light-weight framework that helps researchers to prototype faster using PyTorch. To do so, Skeltorch provides a set of predefined pipelines to organize projects and train/test models.

#### Resumpy

Repository

Easy-to-use tool to transform plain JSON or YML files into a fully-formatted CV. Available using different design templates and supports different languages natively.

- Served as the technical lead for a team of 13 people as part of the subject "Advanced Engineering Project", sponsored by CaixaBank. The subject was graded with a 9.50 / 10.00.
- Obtained the "recognition of outstanding academic achievement", awarded to students who have not failed any subject during the bachelor.

## Publications

August 2020 - ETH Zürich (Master's Thesis)

### **Temporal Copying and Local Hallucination for Video Inpainting**

David Álvarez

April 2020 - International Conference on Learning Representations 2020

### **Input complexity and out-of-distribution detection with likelihood-based generative models**

Joan Serra, David Álvarez, Vicenç Gómez, Olga Slizovskaia, José F Núñez and Jordi Luque

September 2019 - ISCA Speech Synthesis Workshop 2019

### **Problem-agnostic speech embeddings for multi-speaker text-to-speech with SampleRNN**

David Álvarez, Santiago Pascual and Antonio Bonafonte

July 2018 - Universitat Politècnica de Catalunya (Bachelor's Thesis)

### **Real-time stock predictions with deep learning and news scrapping**

David Álvarez

## DavidAlvarezDLT.com

Personal website designed and implemented from scratch using Angular in the front-end and Prismic in the back-end. Available in multiple languages with or without server-side rendering.

## Hobbies

Healthy lifestyle, travel to new places, Netflix Sundays and to learn new things.

## Awards, Recognitions and Scholarships

### **Collaboration Scholarship**

November 2018 | Government of Spain

Scholarship of €2000 whose purpose is to initiate students in research tasks in the department of their choice. Granted annually to the 2000 applicants with the best GPAs of the Spanish territory.

### **Recognition of Outstanding Academic Achievement**

November 2018 | Polytechnic University of Catalonia | Recognition

Granted to those students who passed all subjects in the first attempt without failing any of them. Around 10-20% of the students get this distinction in each promotion.

### **Hackathon Mobility 2018 - First Place of the SEAT Challenge**

March 2018 | CARNET Barcelona | Prize

The Hackathon consisted of using both the sensors of a robot and an Amazon Alexa to create a smart driving assistant. Our solution included functionalities such as face detection, face recognition, facial gesture detection, event alerts and the inclusion of an innovative optimal refuelling algorithm. The price was composed by €2000 in cash plus the opportunity to present the solution in front of high-rank managers in the headquarters of the company.