PERSONAL INFORMATION:

JORDI PONS

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Links: jordipons.me, GitHub, LinkedIN, or Google Scholar
Date of birth: 15 / 02 / 1991

WORK EXPERIENCE:

Dolby Laboratories (BCN) *since 2019*
Researcher. Deep learning research for music and audio, with a focus on audio/music classification and music/speech source separation.

Invited Professor at UPC / UPF since 2017
Teaching recent deep learning advancements for music and audio, with a focus on audio/music classification and music source separation. I also regularly **supervise master students**.

UPF-Music Tech. Group (BCN) *2015-2019*
Teaching and research staff. Researching how (music) audio tasks can benefit from large-scale audio collections and deep learning, with Prof. Xavier Serra.

Telefónica Research (BCN) *Summer 2018*
Research on which strategies help **training neural audio classifiers with few data**, with the goal to learn audio representations that generalize from small audio datasets.

Pandora Radio (Bay Area – USA) *Summer 2017*
Research on how different **deep auto-tagging models perform at scale,** via leveraging the Music Genome Project with supervised deep learning.

DHZ (Hannover) & UPF-Music Tech. Group (BCN) *January 2015-August 2015*
Music perception remains generally poor for **cochlear implant users**. **Source separation** techniques are investigated to enhance the quality of the perceived music mix for implantees, with Waldo Nogueira (DHZ) and Jordi Janer (UPF-Music Technology Group).

IRCAM (Paris) *September 2013-August 2014*
Research on the use of **non-negative matrix factorization techniques for drum transcription** and separation from polyphonic music signals, with Axel Roebel.

DataTotal (Terrassa) *Summer 2013*
Their research is on the field of the Smart Meters technology: electronics, telematics and data processing. My position was as **python developer** on the web-GUI of the system.

UPC-TelecomBCN (Barcelona) *January 2013-June 2013*
Teaching assistant in the Advanced Engineering Project, an e-Health system: detection of pulse and breath frequency through **video processing**.

EDUCATION:

UPF-Music Technology Group (BCN)
PhD in music technology, large-scale audio collections, and deep learning. Cum laude mention for my thesis entitled: “Deep neural networks for music and audio tagging”.

UPF-Music Technology Group (BCN)
Master in Sound and Music Computing (*2014-2015*), a research oriented master on machine learning, audio engineering and music/audio perception. Master thesis: “A source separation-based approach for improving music perception for cochlear implant users”.

UPC-TelecomBCN (BCN)
Telecommunications Engineering (*2009-2014*), specialized in multimedia processing and communications. Degree's thesis with honors: “Automatic Drums Transcription using Non-negative Matrix Deconvolution”. “Audio and Speech Processing” course with honors, as well.

Conservatory (Girona)
Piano, clarinet and harmony studies at the **Classical Academy of Music** (*2002-2006*).

TECHINCAL SKILLS:

- **Programming**: Python nowadays, but I also programmed in Matlab and C++.
- **Web**: HTML5, CSS and PHP-SQL.
- **Machine Learning**: supervised & unsupervised learning, mainly related to audio signal processing problems.
- **Software**: advanced GNU/Linux user.
- **Amateur music producer**.

AWARDS:

- **Cum laude mention** for my doctoral thesis, 2019.
- **Finalist of the Big Data Talent Awards** for my doctoral thesis, 2019.
- **ISMIR 2018 best student paper award**: "End-to-end learning for music audio tagging at scale"**.**
- **AI Grant Fellowship**, 2017.
- **Machine Learning award** for the **poster** "Towards a grounded deep learning paradigm for music modeling" in **5th DTIC-UPF Doctoral Student Workshop**, 2017.
- **CBMI 2016 best-paper award**: "Experimenting with musically motivated CNNs".

SELECTED PUBLICATIONS:

INTERSPEECH 2019
Conference Paper

Francesc Lluís, Jordi Pons & Xavier Serra. "**End-to-end music source separation:** is it possible in the waveform domain?". Demo: link

ICASSP 2019
Conference Paper

Jordi Pons, Joan Serrà & Xavier Serra. "**Training neural audio classifiers with few data**".

ICASSP 2019
Conference Paper

Jordi Pons & Xavier Serra. "**Randomly weighted CNNs** for (music) audio classification"

ICASSP 2018
Conference Paper

Dario Rethage, Jordi Pons & Xavier Serra. "A **Wavenet** for **Speech Denoising**". Demo: link

ML4Audio@NIPS2017
and ISMIR 2018

Jordi Pons, Oriol Nieto, Matthew Prockup, Erik M. Schmidt, Andreas F. Ehmann & Xavier Serra. "**End-to-end** learning for **music audio tagging at scale**". Demo: link

ISMIR 2017
Conference Paper

Jordi Pons, Rong Gong & Xavier Serra. "Score-informed **syllable segmentation** for a capella singing voice **with convolutional neural networks**".

ISMIR 2017
Conference Paper

Eduardo Fonseca, Jordi Pons, Xavier Favory, Frederic Font, Dmitry Bogdanov, Andres Ferraro, Sergio Oramas, Alastair Porter & Xavier Serra. "**Freesound Datasets**: A platform for the creation of open audio datasets". Demo: link

EUSIPCO 2017
Conference Paper

Jordi Pons, Olga Slizovskaia, Rong Gong, Emilia Gómez and Xavier Serra. "**Timbre analysis** of music audio signals with **convolutional neural networks**".

Journal of the Acoustical
Society of America

Jordi Pons, Jordi Janer, Thilo Rode and Waldo Nogueira. "Remixing music using **source separation** algorithms to improve the musical experience of **cochlear implant** users". *2016, vol.140, no 6, p. 4338 – 4349.*

CBMI 2016
Conference Paper

Jordi Pons, Thomas Lidy and Xavier Serra. "Experimenting with **musically motivated convolutional neural networks**".

ICASSP 2015
Conference Paper

Axel Roebel, Jordi Pons, Marco Liuni and Mathieu Lagrange. "On automatic **drum transcription** using non-negative matrix deconvolution and itakura saito divergence".