

# Eduardo Fonseca

PhD Candidate

Plaza del Mercat, 22, 2-2  
08018, Barcelona  
☎ +34 607 21 69 11  
✉ [eduardo.fonseca@upf.edu](mailto:eduardo.fonseca@upf.edu)  
🌐 [www.eduardofonseca.net](http://www.eduardofonseca.net)  
📄 [eduardofonsecamontero](https://www.linkedin.com/company/eduardofonsecamontero)  
🐦 [edfonseca\\_](https://twitter.com/edfonseca_)



**My thesis focuses on audio dataset creation, audio signal representations and deep learning for sound event recognition. My research interests include signal processing and machine learning with applications to machine listening, as well as sound and music computing and acoustics.**

## PhD status

Oct 2016 – present **Music Technology Group, Universitat Pompeu Fabra, Barcelona.**  
I am half way through my PhD under the supervision of [Dr. Xavier Serra](#). My most recent contributions include organizing a Kaggle audio tagging competition and a paper about learning sound event classifiers in presence of label noise, both carried out in collaboration with [Daniel P. W. Ellis](#) from the Sound Understanding Team in Google AI Perception. My thesis is partially funded by a 2017 Google Faculty Research Award for the creation of the [FSD](#) dataset. The expected thesis submission date is fall of 2020.

## Work Experience

April 2016 – present **AudioCommons project, MUSIC TECHNOLOGY GROUP, UNIVERSITAT POMPEU FABRA, BARCELONA.**  
Creation of the [Freesound Datasets](#) platform used to build and maintain several open audio [datasets](#). Development of deep learning approaches for acoustic scene and sound event classification.

Sept 2014 – March 2016 **PHONEDRIVE project, TELEFÓNICA R&D & TECHNICAL UNIVERSITY OF MADRID.**  
Design of a system for driving pattern recognition by means of signals of smartphone sensors (accelerometers and gyroscopes).

June 2015 **Forensic Acoustics, SPANISH NATIONAL RESEARCH COUNCIL (CSIC).**  
Analysis of speech recordings carried out in CSIC's Phonetics Laboratory with forensic acoustic purposes.

Oct 2010 – Dec 2013 **HECCO project, INECO & TECHNICAL UNIVERSITY OF MADRID.**  
Machine learning and signal processing for objective speech quality assessment in air-ground communications.

July 2006 **Sound Technician Internship, RADIOTELEVISIÓN ESPAÑOLA.**  
Audio production of news bulletin and basic tv programmes.

Sept 2003 – June 2004 **Radio station Coordinator, SAN JUAN EVANGELISTA UNIVERSITY RESIDENCE.**  
Management tasks and maintenance of equipment in an amateur radio studio.

## Recent publications (full list available at [google scholar](#))

- [1] Eduardo Fonseca, Manoj Plakal, Daniel P. W. Ellis, Frederic Font, Xavier Favory, and Xavier Serra. Learning sound event classifiers from web audio with noisy labels. Submitted to International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2019.
- [2] Eduardo Fonseca, Manoj Plakal, Frederic Font, Daniel P. W. Ellis, Xavier Favory, Jordi Pons, and Xavier Serra. General-purpose tagging of freesound audio with audioset labels: Task description, dataset, and baseline. In *Detection and Classification of Acoustic Scenes and Events 2018 Workshop (DCASE2018)*, Surrey, UK, 2018.

## Awards

2017 **Google Faculty Research Award,**  
Project proposal developed under the supervision of Dr. Xavier Serra focused on the creation of [FSD](#), a large-scale, open audio dataset for sound event recognition based on [Freesound](#) content organized with the [AudioSet Ontology](#).

## Co Curricular

2018 **Detection and Classification of Acoustic Scenes and Events (DCASE) 2018 Task2 Organizer,**  
Co-organization of the [General-purpose audio tagging of Freesound content with AudioSet labels](#) competition, which was run on the [Kaggle](#) platform with 558 teams participating.

2017 **Sónar Innovation Challenge Mentor,**  
Co-mentoring a team in the development of a [tool](#) for 3D exploration of Freesound based on sound similarity.

## Computer & Technical Skills

Languages *High:* Python, MATLAB, Keras | *Basic:* Tensorflow, Torch, Lua, HTML, C/C++, Java, Tcl/Tk  
Software Linux, MAC OSX, Windows, L<sup>A</sup>T<sub>E</sub>X, office-related software, WaveSurfer, Audacity, Sonic Visualizer  
Acoustics *Simulation:* CATT Acoustics, EASE | *Measurement:* MLSSA, 01 dB Symphonie, Brüel & Kjær PULSE