Oriol Nieto, PhD

https://ccrma.stanford.edu/~urinieto/MARL/
onieto@pandora.com | he/him/his

SKILLS

PROGRAMMING

Python (TensorFlow, PyTorch, Beam)
Scala (Spark)
SQL

MACHINE LEARNING

Convolutional Neural Networks
Recurrent Neural Networks (LSTM, GRU)
Transformers (BERT, Synthesizer)
Matrix Factorization (NMF, PWF, etc.)
Classical Approaches (SVMs, HMMs, Decision Trees, etc.)

SOFTWARE

Google Cloud Platform
Hadoop (Hive and Presto)
Git and Perforce
JupyterLab
Zeppelin Notebooks
Tmux and Vim

EDUCATION

PHD, MUSIC DATA SCIENCE

New York University
February 2015 | New York, NY
Dissertation: **Discovering Structure in Music**

MA, MUSIC TECHNOLOGY

Stanford University
June 2010 | Stanford, CA

MS, MEDIA TECHNOLOGIES

Pompeu Fabra University
June 2008 | Barcelona, Spain
Thesis: **Voice Transformations for Extreme Vocal Effects**

BS, COMPUTER SCIENCE

Polytechnic University of Catalonia
June 2007 | Barcelona, Spain
Thesis: **Open Source E-learning Development**

LINKS

Github:// **urinieto**
LinkedIn:// **urinieto**
Twitter:// **@urinieto**
YouTube:// **Uri Nieto**

EXPERIENCE

PANDORA | Staff Scientist

Sep 2015 – Today | Oakland, CA

- Built a multimodal music recommender employing **waveform-based CNNs** that improved the thumb up rate of long-tail recommendations by 20%.
- Implemented an **unsupervised clustering-based music recommender** that is active in a large proportion of all recommendations of popular content.
- Supervised several PhD interns, and authored 8 peer-reviewed articles (e.g., [1,2]).

CORD | Data Scientist

May 2015 – Aug 2015 | Beverly Hills, CA

- Designed and implemented a CNN-based system to automatically segment audio for interactive games and movies.

HARMONIX | Audio Research Engineer

Apr 2013 – Aug 2013 | Cambridge, MA

- Researched and implemented an unsupervised method to automatically identify music structure for the Harmonix VR game.
- Published the annotations as a research-oriented dataset [5].

THE ECHO NEST | Data Science Intern

May 2012 – Aug 2012 | Somerville, MA

- Developed an unsupervised matrix factorization technique to identify segments based on audio signals.
- Published the method in an IEEE conference [3].

NEW YORK UNIVERSITY | Adjunct Teacher

Sep 2011 – Jan 2015 | New York, NY

- Teacher of the graduate course named "C Programming for Music Technology."

RELEVANT PUBLICATIONS

[1] Pons, J., Nieto, O., Prockup, M., Schmidt, E., Ehmann, A., Serra, X., **End-to-End Learning for Music Audio Tagging at Scale**. Proc. of the 19th International Society for Music Information Retrieval Conference. Paris, France, 2018 (**Best Student Paper**).

[2] Oramas, S., Barbieri, F., Nieto, O., Serra, X., **Multimodal Deep Learning for Music Genre Classification**. Transactions of the International Society for Music Information Retrieval. 2018.

[3] Nieto, O., Jehan, T., **Convex Non-negative Matrix Factorization For Automatic Music Structure Identification**. Proc. of the 38th IEEE International Conference on Acoustics, Speech, and Signal Processing. Vancouver, Canada, 2013.

[4] Nieto, O., Bello, J. P., **Systematic Exploration Of Computational Music Structure Research**. Proc. of the 17th International Society for Music Information Retrieval Conference. New York City, NY, USA, 2016.

[5] Nieto, O., McCallum, M., Davies., M., Robertson, A., Stark, A., Egozy, E., **The Harmonix Set: Beats, Downbeats, and Functional Segment Annotations of Western Popular Music**. Proc. of the 20th International Society for Music Information Retrieval Conference, Delft, The Netherlands, 2019.

[6] McFee, B., Raffel, C., Liang, D., Ellis, D. P. W., McVicar, M., Battenberg, E., Nieto, O., **LibROSA: Audio and Music Signal Analysis in Python**. Proc. of the 14th Python in Science Conference. Austin, TX, USA, 2015.