ALICE COHEN-HADRIA

MACHINE LEARNING AND SIGNAL PROCESSING RESEARCHER

RESEARCH INTEREST

I am interested in using deep learning method to estimate any musical and speech description. Particularly, I've worked on musical structure estimation and voice processing with Convolutional Neural Network (CNN). My work fits in Music Information Retrieval (MIR) field, from signal processing any neural network methods.

CONFERENCE PAPERS

- Alice Cohen-Hadria, Mark Cartwright, Brian McFee and Juan Pablo Bello, **Voice anonymization in urban sound recordings**, Accepted at MLSP 2019
- Alice Cohen-Hadria, Axel Roebel, Geoffroy Peeters **Improving singing voice separation using Deep U-Net and Wave-U-Net with data augmentation,** Accepted for EUSIPCO 2019.
- Gabriel Meseguer-Brocal, Alice Cohen-Hadria, Geoffroy Peeters, **DALI: a large Dataset of synchronized Audio, Lyrics and notes, automatically created using teacher-student machine learning paradigm**, Published in ISMIR 2018 Proceedings.
- Alice Cohen-Hadria, Geoffroy Peeters, Music Structure Boundaries **Estimation Using Multiple Self-Similarity Matrices as Input Depth of Convolutional Neural Networks,** Presented at on Semantic Audio.

MEETING ORGANIZATIONS

Co-chair of Unconference at ISMIR 2018, Paris, France. 400 participants, chairing and organization of debates on MIR subjects.

ISMIR 2018 Local committee organization, Paris, France. Meeting of the International Society of Music Information Retrieval, 450 participants.

CONTACT INFO

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WORK EXPERIENCES

PostDoc Feb 2020 - today

Automatically pronunciation errors in foreign language learning. Supervised by Isabelle Ferrané, Thomas Pelligrini and Julien Pinquier, At Institut de Recherche en Informatique de Toulouse.

PhD Student at IRCAM Oct 2016 - Dec 2019

PhD in Computer Science - Musical descriptions estimation with deep learning, Institute for Research and Coordination in Acoustics/Music (IRCAM), Paris, France. Supervised by Geoffroy Peeters, in Sound Analysis-Synthesis Team. Granted by the MESR scholarship (French Ministry of Higher Education and Research).
Study of the application of for music and speech application: singing voice detection and separation, voice and music structure estimation. Construction of DALI, the largest dataset of music and lyrics aligned, using Teacher/Student paradigm.

Visiting scholar at NYU Feb 2019 - April 2019

Anonymization of voices in urban sounds, Music and Audio Research Lab (MARL), NYU, New York City. Supervised by Mark Cartwright, Brian McFee and Juan Pablo Bello, in the SONYC project. Development of voices anonymization method based on source separation and blurring by descriptors inversion.

Assistant teacher, Sorbonne Université, Oct 2016 - Dec 2019

Python (L1), C (L1), SQL (L2), JAVA (L2), Referring teacher

Internship: Musical Structure Learning with Convolutionnal Neural Network, Feb. - July 2016

Musical Structure Learning with Convolutionnal Neural Network, Institute for Research and Coordination in Acoustics/Music (IRCAM). Supervised by Geoffroy Peeters, in Sound Analysis-Synthesis Team. Using new representations and input depth of ConvNets to improve music structure boundaries estimation.

Internship: Generic programming for combinatorial classes, Summer 2015

Generic programming for combinatorial classes, Laboratoire d'Informatique de Paris 6 (LIP6). Supervised by M. F. Algorithms, Programs and Resolution Team).

Internship: Study of Equilibria in Strategic Candidacy, Summer 2014

Supervised by Nicolas Maudet ("DEcision, Systèmes Intelligents Recherche opérationnelle" Team) and Jérôme Lang (LAMSADE).

EDUCATION

PhD in Computer Science

Obtained in Oct 2019, committee composed of Dixon and Emmanuel Vincent (examiners) and Carlos Agon, Juan Pablo Bello, Isabelle Bloch president), Axel Roebel and Jimena Royo-Letelier.

Master (2nd year) in Computer Science and Signal Processing,

With honors. Acoustics, Signal, Processing and Computer Science Applied to Music, IRCAM 2014- 2015

Master (1st year) in Computer Science

Distributed agents, Robotics, Operational research, Interaction and Decision. UPMC 2011- 2014

Bachelor degree in Computer Science

with honors, UPMC.