ALICE COHEN-HADRIA

MACHINE LEARNING AND SIGNAL PROCESSING PHD STUDENT

RESEARCH INTEREST

I am interested in using deep learning method to estimate any musical 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 to any neural network methods.

CONFERENCE PAPERS

- Alice Cohen-Hadria, Mark Cartwright, Brian McFee and Juan Pablo Bello, Voice anonymization in urban recordings, Under review for MLSP 2019
- Alice Cohen-Hadria, Axel Roebel, Geoffroy Peeters , Improving singing voice separation using Deep U-Net and Wave-U-Net with data augmentation, Under review for EUSIPCO 2019.
- Gabriel Meseguer-Brocal, Alice Cohen-Hadria, Geoffroy Peeters, DALI: a large Dataset of synchronized Audio, Lyrlcs 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 2017 AES International Conference 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

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.

PhD Student at IRCAM Oct 2016 - today

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). Including 192 teaching hours.

Assistant teacher, Pierre and Marie Curie University, Oct 2016 - today

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. Dien et F. Peschanski (Algorithms, Programs and Resolution Team). Development of a syntax extension of OCaml language to express combinatorial classes. Compilation, OCaml language.

Internship: Study of Equilibria in Strategic Candidacy, Summer 2014

Supervised by Nicolas Maudet ("DEcision, Systèmes Intelligents Recherche opérationnelle" Team) and Jérôme Lang (LAMSADE). Computational social choice. Study and models of vote rules and Nash equilibria. Constraint programming. Paper: New Results on Equilibria in Strategic Candidacy.

Computer Science teacher, Middle School Lucie Faure, 2014

Langage Tangara (Java), Middle school, With Colombbus non profit. Teaching basic of object-oriented programming to middle school students, creation of video games.

EDUCATION

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.