Two PostDoc positions for specialists in voice signal processing using deep neural networks

Availability: As soon as possible, but not later than September 2022

Duration: 12 months. Depending on the results a 6 month extension may be envisioned.

Introduction to IRCAM

IRCAM is a non-profit organization that is associated to the Centre Pompidou (Centre national d'art et de culture Georges Pompidou). Its missions comprise research, production, and education related to contemporary music and its relation to science and technology. Scientific research and development are carried out in the STMS joint research laboratory, which brings together researchers from IRCAM, the CNRS and Sorbonne University. The laboratory is divided into specialised teams conducting research and development work in the fields of acoustics, sound signal processing, interaction technologies, computer music and musicology. IRCAM is located in the centre of Paris near the Centre Pompidou, at 1, Place Igor Stravinsky 75004 Paris.

Description of the position

The successful candidates will enter the Analysis/synthesis team of the STMS laboratory and contribute to the ongoing research activities related to voice processing with DNN. The concrete tasks will cover topics from the following list:

- research and development of tools for singing voice effects, singing voice separation, and singing voice style analysis in the ANR project ARS (https://ars.ircam.fr)
- improvement and application of the voice conversion software developed in the team for producing historic voices as for example the voice of Dalida (https://www.youtube.com/watch?v=seXKtSGf4U8&t=19s)
- development of DNN for the transformation of voice quality.
- development of tools for construction of training databases (de-noising, de-reverbation, data augmentation).
- recording of specific training databases.

These topics will be addressed building upon the tools that are actively developed in the team.

Required Experiences and Skills

- Excellent knowledge of and practical experience with voice signal processing algorithms.
- Excellent knowledge of state of the art deep learning algorithms, and extensive experience with practical applications of these algorithms.
- PhD in a relevant domain.

- Very proficient in Python (*NumPY/SciPY*), and extensive experiences with the *tensorflow* library.
- Good knowledge of Linux, and/or Mac OS X.
- High productivity, capacity for methodical and autonomous work, creativity, good communication skills, rigor, and excellent programming style.

Salary

According to education and experience.

Applications

Please send an application letter before 15 June 2022 together with your resume and any suitable information addressing the above issues preferably by email to: roebel_at_ircam_dot_fr.