

Department of Computer Science, University of Crete, Greece

Post-doctoral Research Associate in Data Augmentation in the context of Deep Neural network ASR (Fixed Term)

SALARY: €24000-€28000 per year

CLOSING DATE: 30 June 2017

REFERENCE: ASR2

TO APPLY: Send detailed CV, a motivation letter and 3 major publications to yannis@csd.uoc.gr

In the past few years, Deep Neural Networks (DNNs) have achieved tremendous success for many supervised machine learning tasks, including acoustic modelling for Automatic Speech Recognition (ASR). Advanced models such as Convolutional Neural Networks (CNNs) and Long Short Term Recurrent Neural Networks (LSTMs) have contributed to recent empirical breakthroughs. However, deep learning methods are quite demanding in the amount of data for training an acoustic model for ASR and as a result significant amounts of transcribed data has become available for training use. But data transcription is a quite expensive and time consuming process. On the other hand, just adding data recorded in real-world conditions puts serious constraints on the efficient training of the acoustic models. Various works on data augmentation show that word error rate (WER) can be significantly reduced if proper augmented data are processed.

This position represents an ideal opportunity to work in or move into data augmentation research area in the context of advanced deep neural networks for ASR, as it will involve collaborating widely across academia and industry, and working on one of the most pressing research areas of machine learning for the development of robust ASR systems.

Based in Heraklion Crete the post will be with Prof. Yannis Stylianou and Dr. George Kafentzis as part of the speech processing group within the Department of Computer Science at the University of Crete. You will design and develop smart approaches for spoken data augmentation for the purpose of multi-condition training of deep learning-based ASR systems. The work will be performed within the framework of advanced deep neural network architectures for various ASR tasks. The focus of the post will be to perform various experiments with spoken data generation, explore and suggest modifications, process and reshape knowledge from various signal processing for the purpose of ASR. Outcomes will directly feed into improvements of ASR systems in-house working with state-of-the art ASR tasks (i.e., AURORA-4, CHiME4, REVERB, etc) and of our industrial partners using real-life data.

The post involves travel to international conferences and project meetings with our academic and industrial partners. There will be the possibility to co-advise doctoral students and potentially other teaching opportunities.

Applicants should have a doctorate in speech signal processing area for ASR, statistical speech synthesis and voice conversion, audio signal processing, computer science, applied mathematics or related field and ideally a strong background in deep learning and mathematics. Knowledge of deep

learning systems such as Tensorflow or Theano etc and ASR systems like Kaldi are an advantage. Proficiency in computer programming in C and/or Python are expected.

Informal inquiries should be directed to Prof. Yannis Stylianou by email, yannis@csd.uoc.gr

Fixed term: In the first instance, the funding supporting the post is for two years. We are expecting project extension which will provide funding for a further 7-12 months for this post.

Interviews are expected to take place the week commencing 10th July 2017.

Expected start date: September 2017, however earlier and later start dates will be considered.

To apply, please send detailed CV, a motivation letter and 3 major publications of yours to:

[\(Prof. Yannis Stylianou\)](mailto:yannis@csd.uoc.gr)