Felix Grezes

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Work Experience

Summer 2018 — Machine Learning Engineer for **Apple** in the Siri Speech team in Cheltenham, UK.
R&D of binary neural network architectures for speech keyword detection on low power devices. Demonstrated feasibility of binary weights for high accuracy/small memory size/low resource models. Work done in in Python using Keras/Tensorflow along Oracle Grid Engine.

Summer 2017 — Research Scientist at **AT&T** Shannon Lab - Big Data Research dept. in Middletown, NJ.
R&D of Generative Adversarial Networks (GANs) over text data, for use in a Adaptive Dialog Assistant System. Provided customer care agents with plausible generated answers to queries, saving time and energy. Work done in Python Keras/Tensorflow along Hadoop.

Fall 2012 - Present — Research Assistant at the **CUNY Graduate Center** in New York, NY
Collaborated with Pr. Michael Mandel at the Brooklyn College Speech Lab and Pr. Andrew Rosenberg at the Speech Lab @ Queens College, researching Adversarial Attacks and Defense of Neural Networks, the use of Recurrent Neural Networks, Reservoir Networks, and prosodic information for Audio Source Separation and Natural Language Processing. Work done in Pytorch with CUDA.

Spring 2016 - Present — Adjunct Lecturer at **Hunter College** in New York NY.
Teaching of advanced algorithms and data structures, their design and analysis. Supervision of programming project for CS majors and minors. Conception and creation of course syllabus, materials, and examinations.

July - Dec 2011 — Research Engineer at the **Aging in Vision and Action Lab** in Paris, France.
Conception and implementation of a rat brain model for research on the neural bases of active exploratory behavior in rats. Validated the hypothesis by improving the model's performances by evolution and genetic algorithm.

Education and Degrees

Fall 2012 - Present — PhD Candidate in Computer Science at the CUNY Graduate Center.
Member of the IGERT *From Data to Solutions* program of Columbia University.

2009 - 2011 — **Master's Degree in Computer Science** from Université Pierre et Marie Curie, Paris 6, France. Specialized in Artificial Intelligence and Decision theory

2006 - 2009 — **Undergraduate Degree in Math and Computer Science**, from the Université Pierre et Marie Curie, Paris 6, France. Exchange program with CUNY City College of New York in 2008-09.

Works & Publications

2018 Enhancement of Spatial Clustering-based Time-frequency Masks using LSTM Neural Nets

2018 Better MVDR Beamforming Using LSTM Speech Models to Clean Spatial Clustering Masks

2017 Adding Spatial Clustering to LSTM Speech Models for Multichannel Speech Enhancement
Presented at the 2017 Mid-Atlantic Student Colloquium on Speech, Language and Learning.

2016 Linguistically-Motivated Features for Language Recognition

2015 Speech Lab @ Queens College: Language Recognition Evaluation 2015
Part of the 2015 NIST Language Recognition Evaluation Plan

2014 Reservoir Computing: A New Paradigm for Neural Networks: A Survey
Second Examination of the CUNY Graduate Center Computer Science Program

2013 Let Me Finish: Automatic Conflict Detection Using Speaker Overlap
Published in Proceedings - InterSpeech 2013, and presented at InterSpeech 2013 in Lyon, France.

2012 Exploratory Behaviour Depends on Multisensory Integration during Spatial Learning
Published in Artificial Neural Networks and Machine Learning - ICANN 2012

Additional Information

- Interested in highly reproducible research as taught by Pr. Stodden and advocated by Jupyter notebooks.
- CUNY Graduate Center CS Student Association chair, coordinator and mentor.
- Personal git repositories: github.com/grezesf.
- Native speaker of French and English. Basic knowledge of German.