Felix Grezes

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Work Experience

Summer 2018 — Machine Learning Engineer for **Apple** on the Siri Speech team on 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 Python and Keras/TensorFlow using Oracle Grid Engine.

Summer 2017 — Research Scientist at **AT&T** Research Lab, Data Science and AI Research in New York, NY
R&D of generative adversarial networks (GANs) over text data, for use in an adaptive dialog assistant system. Generated tailored answers to customer queries, significantly reducing average speed of answer and handle time for care agents. Work done in Python and Keras/TensorFlow using Hadoop.

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. Mentored undergraduates and helped prepare them for the workforce.

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 on adversarial attacks and defenses of neural networks, and the use of recurrent neural networks for audio source separation. Collaborated with Pr. Andrew Rosenberg at the Queens College speech lab on the use of reservoir networks and prosodic information for conflict detection and NLP. Performed sentiment analysis on user discussions on Reddit. Work done in PyTorch with CUDA.

July - Dec 2011 — Research Engineer at the **Aging in Vision and Action Lab** in Paris, FRA
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 neural network model's performances by evolution and genetic algorithm. Work done in C++ using the SFERES framework.

Education and Degrees

Fall 2012 - Present, *Expected Summer 2020* — **PhD Candidate** in Computer Science at the CUNY Graduate Center in New York, NY
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, FRA
Specialized in Artificial Intelligence and Decision Theory

2006 - 2009 — **B.S. in Math and Computer Science**, from Université Pierre et Marie Curie, Paris 6, FRA
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 (2017-19)
- Languages: English (native), French (native), German (basic)