

WORK EXPERIENCE

March 2021	Machine Learning and Natural Language Processing Specialist for the SAO/NASA Astrophysics Data System at the Center for Astrophysics Harvard & Smithsonian. Designed, trained and evaluated machine learning / deep learning models that expand the functionality of the ADS search engine with new capabilities and services.
Summer 2018	Machine Learning Engineer for Apple on 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 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	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 Sorbonne Université, FRA Specialized in Artificial Intelligence and Decision Theory
2006 - 2009	B.S. in Math and Computer Science , from Sorbonne Université, 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 <i>Proceedings - InterSpeech 2013</i> , and presented at InterSpeech 2013 in Lyon, France
2012	Exploratory Behaviour Depends on Multisensory Integration during Spatial Learning Published in <i>Artificial Neural Networks and Machine Learning - ICANN 2012</i>

ADDITIONAL INFORMATION

- Languages: English (native), French (native), German (basic)