AGHILAS SINI

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Research Interest

Speech and Language Processing, Machine learning.

Education

Academic background

2014	**Master 2 - Artificial Intelligence, Pattern Recognition and Robotics**	
	Université Paul SABATIER- TOULOUSE. France	
2013	**Master 1 - Real Time Systems Engineering**	
	Université Paul SABATIER- TOULOUSE. France	
2011	**B.Sc - Control System and Automation**	
	Université Mouloud MAMMERI- TIZI OUZOU. Algeria	

Workshop attended

Nov 2015	**Workshop on "Feedback in Pronunciation Training"**	
	Hofgut Imsbach, Northern Saarland, Germany	

Summer School attended

Jul 2016	**Speech Synthesis Summer School**	
	University of Crete, Heraklion, Crete, Greece	

Professional Experience

As an engineer

IFCASL Project (Individualized Feedback for Computer-Assisted Spoken Language Learning)

Jan 2016 present

LORIA-INRIA Laboratory Nancy.
- Automatic pronounciation diagnosis and error detection for germans learning french
- Modification and re-synthesis of learner audio samples using teacher audio samples based on Pitch Synchronous Overlap and Add algorithm
- Feedback to correct devoicing of final consonants in French spoken by German learners.
- Improving speech text alignment for language learning using deep neural network, training network with TensorFlow and decoding with DL4J (IFCASL Corpus).
- Extraction of speech features for pitch detection using deep neural network.

Jan 2016
Mar 2016

Lecturer in Web Programming
IUT Charlemagne, Université de Lorraine, Nancy
- JavaScript, Ajax, JQuery. For second year post baccalaureat students

Nov 2014
Jan 2016

ORTOLANG Project Open Resources and TOols for LANGuage
LORIA-INRIA Laboratory Nancy.
- Development of syntactic-semantic analyser tool called J-Safran for spoken documents in French language
- Contributing to development of JTRANS tool for semi-automatic alignment of speech and textual corpus
- Contributing to development of JSnoori an Interactive tool for speech signal processing and phonetics

Internship (Master Thesis)

Mar 2014	**Mapping of a sound environment for a mobile robot**
Aug 2014	*LORIA-INRIA Laboratory Nancy.*

- Control of a mobile robot movements to localize a sound source as quickly as possible. The belief about the source position is represented by a discrete grid and a dynamic programming algorithm was introduced to find the optimal robot motion minimizing the entropy of the grid

Publications

(1) E. Vincent, A. Sini and F. Charpillet, "Audio source localization by optimal control of a mobile robot," Acoustics, Speech and Signal Processing (ICASSP), 2015 IEEE International Conference on, South Brisbane, QLD, 2015, pp. 5630-5634.

(2) Ghosh, S., Sini, A., Laprie, Y. & Camille Fauth, C. 2016. L1-L2 interference: the case of final devoicing of French voiced fricatives in final position by German learners. To appear in Proceedings of Interspeech 2016, San Francisco.

Activities & Independent Courses

Other Activities

- Data collection for IFCASL Project
- Member of Deep Learning Discussion Group at LORIA-INRIA
- Volunteer for MRI Data Collections
- Hosted the booth for demonstration of tools in "Village des Sciences" at LORIA

Online Certificate Courses

Oct 2015	**Digital Signal Processing**
Dec 2015	*École polytechnique fédérale de Lausanne* **taught by Prof. Paolo Prandoni & Martin Vetterli**

Jan 2016	**Data Science Specialisation**
May 2016	*Johns-Hopkins University* **by Jeff Leek, Roger D. Peng & Brian Caffo**

Computer Skills

Scripting	Shell script, Windows Batch script, Jython, Python
Programming	C, C++, Java
Scientific	Matlab/Octave, Theano, R
Web	HTML, CSS, PHP, JavaScript, Ajax, JQuery
Protocols & APIs	XML, JSON, SOAP, REST
Tools	Git, Ant, Maven, Vim.

Communication Skills

French (fluent) **English** (fluent), **German** (beginner)

References

Denis Jouvet	Research Director, INRIA Multispeech
	denis.jouvet@inria.fr
Yves Laprie	Research Director, CNRS Multispeech
	yves.laprie@loria.fr