

# AGHILAS SINI

(+33) 07 · 77 · 33 · 37 · 64 ◊ sini.aghilas@gmail.com

615 Rue du Jardin Botanique ◊ Villers les Nancy , 54600 France (professionnel)

17 Rue du Général Frère ◊ Vandoeuvre les Nancy, 54500 France (Privete)

## Research Interest

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Speech and Image Processing, Data Science, Machine learning.

## Education

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### *Academic background*

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| 2014 | <b>Master 2 - Artificial Intelligence, Pattern Recognition and Robotics</b><br><i>University Paul SABATIER- TOULOUSE. France</i> |
| 2013 | <b>Master 1 - Real Time Systems Engineering</b><br><i>University Paul SABATIER- TOULOUSE. France</i>                             |
| 2011 | <b>B.Sc - Control System and Automation</b><br><i>University Mouloud MAMMERI- TIZI OUZOU. Algeria</i>                            |

### *WorkShop attended*

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| 5-6 Nov<br>2015 | <b>Workshop on "Feedback in Pronunciation Training"</b><br><i>Hofgut Imsbach, Northern Saarland, Germany</i> |
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## Professional Experience

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### *Engineer*

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| Jan 2016<br>Mar 2016 | <b>Lecturer in Web Programming</b><br><i>IUT Charlemagne, Université de Lorraine, Nancy.</i><br>- JavaScript, Ajax, JQuery, second years post baccalaureat (Bac+2)  |
| Jan 2016             | <b>IFCASL Project Individualized Feedback for Computer-Assisted Spoken Language Learning</b><br><i>LORIA Laboratory Nancy.</i><br>- Modification and re-synthesis of learner audio samples using teacher audio samples based on Pitch Synchronous Overlap and Add algorithm<br>- Feedback to correct devoicing of final consonants in French spoken by German learners.<br>- improving speech text alignment for language learning using deep neural network, training network with theano and decoding with DL4J (IFCASL Corpus).<br>- extraction of speech features for pitch detection using deep neural network.  |
| Nov 2014<br>Jan 2016 | <b>ORTOLANG Project Open Resources and TOols for LANGUAGE</b><br><i>LORIA Laboratory Nancy.</i><br>- Development of syntactic-semantic analyser for spoken documents in French language - open source tool J-Safran released by LORIA. Includes dependency parser for oral speech and inclusion of inference of partial semantic role labels on top of syntactic parsing.<br>- Tool for semi-automatic alignment of speech and textual corpus - open source tool JTRANS released by LORIA. Working on correction of speech text alignment around silence segments.<br>- Interactive tool for speech signal processing and phonetics - open source tool JSnoori released by LORIA. Development of module for pitch estimation. |

### *Internship*

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| Mar 2014<br>Aug 2014 | <b>Mapping of a sound environment for a mobile robot</b><br><i>LORIA Laboratory Nancy.</i> <ul style="list-style-type: none"><li>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.</li></ul> |
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## Publications

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E. Vincent, A. Sini and F. Charpillat, "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.

## Activities & Independent Courses

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### *Other Activities*

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

### *Online Certificate Courses*

Oct 2015	<b>Digital Signal Processing</b>
Dec 2015	<i>École polytechnique fédérale de Lausanne</i> taught by <b>Prof. Paolo Prandoni &amp; Martin Vetterli</b>
Jan 2016	<b>Data Science Specialisation</b>
present	<i>Johns-Hopkins University</i> by <b>Jeff Leek, Roger D. Peng &amp; Brian Caffo</b>
Dec 2015	<b>Machine Learning</b>
present	<i>Stanford University</i> by <b>Andrew Ng</b>

## Computer Skills

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

## Language

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<b>Kabyle</b>	native
<b>French</b>	fluent
<b>Arabic</b>	fluent
<b>English</b>	intermediate
<b>German</b>	beginner

## Referees:

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<b>Denis Juvet</b>	Research Director, INRIA Multispeech denis.juvet@inria.fr
<b>Emmanuel Vincent</b>	Senior Researcher, INRIA Multispeech emmanuel.vincent@inria.fr
<b>François Charpillat</b>	Research Director, INRIA Larsen francois.charpillat@inria.fr
<b>Yves Laprie</b>	Research Director, CNRS Multispeech yves.laprie@loria.fr