Maxime Baelde

Data Scientist

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LinkedIn profile
Github repo

Work experiences

April 2015 – Today
R&D Engineer, Data Scientist, A-Volute, Villeneuve d'Ascq.
Develop algorithms related to probabilities, statistics, machine learning and artificial intelligence, for applications to digital audio technologies.

January 2016 – January 2019
Ph. D Student, A-Volute – Inria, Villeneuve d'Ascq.
Thesis subject: Real-time identification, localization and separation of audio sources in multichannel audio streams. Supervisor: Christophe Biernacki, Professor (Université de Lille, INRIA, CNRS)

November 2017 – January 2019
Part-time lecturer in Signal Processing, Ecole Centrale de Lille, Villeneuve d'Ascq.
Involved in lectures of Signal Processing at Ecole Centrale de Lille (Bachelor equivalent lectures)

September 2018 – October 2018
Part-time lecturer in Statistics, ISA, Lille.
Involved in lectures of Statistics with R at ISA (Bachelor equivalent lectures)

May 2014 – August 2014
Internship – Research assistant, Université Libre de Bruxelles, Brussels.
Development of an experimental method for assessing the musical qualities of violin strings. Supervisor: Jean-Pierre Herman

Scientific communications

2019
Journal article: Pattern Recognition.
Maxime Baelde, Christophe Biernacki and Raphaël Greff. "Real-Time monophonic and polyphonic audio classification from power spectra". In : Pattern Recognition 92 (august 2019), p. 82-92. [paper]

2019
Conference paper: Gretsi 2019.
Nathan Souviraà-Labastie, **Maxime Baelde**, Thomas Malet and Raphaël Greff. Impact des conditions d'attaques sur les contre-mesures pour la reconnaissance du locuteur. pre-print Gretsi. [paper]

2019
Conference paper: Interspeech 2019.
Maxime Baelde, Nathan Souviraà-Labastie and Raphaël Greff. Influence of the attack conditions on countermeasures for Automatic Speaker Verification. pre-print Interspeech. [paper]

2017
Conference paper: ICASSP 2017.
Maxime Baelde, Christophe Biernacki and Raphaël Greff. A mixture model-based real-time audio sources classification method. 2017 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 5-9 Mar 2017, pp. 2427-2431, New Orleans, USA. [paper], [poster]

2017 **Conference paper: JDS 2017**.
Maxime Baelde, Christophe Biernacki, Raphaël Greff. Classification de signaux audio en temps-réel par un modèle de mélanges d'histogrammes. 49èmes Journées de Statistiques, June 2017, Avignon, France. [paper]

2015 **Master Thesis**.
Maxime Baelde. Modelization of HRTF filters and optimization for 3D audio effect. Master thesis, 2015, Université de Lille. [paper]

2014 **Abstract: JASA 2014**.
Maxime Baelde, Jessica De Saedeleer et Jean-Pierre Hermand. "Experiment to evaluate musical qualities of violin strings". In : The Journal of the Acoustical Society of America 136.4 (2014), p. 2284-2285. [abstract]

Education

2012–2015 **Engineering Degree**, *Ecole Centrale de Lille*, Villeneuve d'Ascq, *Decision making and Data analysis*.

2014–2015 **Master Research in Applied Mathematics**, *Université de Lille*, Villeneuve d'Ascq.

2010–2012 **Preparatory classes: two-year undergraduate intensive course in mathematics and/or physics**, *Lycée Henri Wallon*, Valenciennes.

2007–2010 **A-Level, engineering sciences and physics speciality**, *Lycée Pierre Forest*, Maubeuge.

Computer skills

Software programming: Python, R, MATLAB, C, Scikit-learn, TensorFlow

Operating system: Windows, Linux

Language

French: **Mother Tongue**

English: **Technical and professional**

Hobbies

- Music: play the piano (since 4 years) and the guitar (since 13 years)
- Videogames: RPG, Tactical
- Reading: thriller, science-fiction