Maxime Baelde

Ph. D, Data Scientist

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LinkedIn profile
Github repo

Work experiences

July 2019 – Today
Machine Learning Engineer, Data Scientist, Wavely, Villeneuve d'Ascq.
Develop algorithms related to probabilities, statistics, machine learning and artificial intelligence, for applications to predictive maintenance and sound monitoring.

October 2019
Lecturer in Statistics, Enigma, Lille.
Involved in lectures of Statistics with R at Enigma (Master in Computer Science)

April 2015 – July 2019
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.

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

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)

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)

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
Ph.D thesis.
Maxime Baelde. "Modèles génératifs pour la classification et la séparation de sources sonores en temps-réel". Ph.D thesis, Université de Lille, 2019

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
Pre-print: 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 **Pre-print 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

2016–2019 **Ph.D thesis**, *Université de Lille*, Villeneuve d'Ascq, Modèles génératifs pour la classification et la séparation de sources sonores en temps-réel.

2012–2015 **Engineering Degree**, *École 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 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