Iwona Sobieraj

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PROFESSIONAL SUMMARY

Energetic, self-motivated PhD student in Machine Learning for Analysis of Environmental Sounds, with extensive research and development experience both in industry and academia. Main research interests include digital signal processing and machine learning, with focus on non-negative matrix factorization and deep learning.

EDUCATION

Since 09.2015 **PhD candidate**
University of Surrey, United Kingdom
Working on Machine Learning for Analysis of Environmental Sounds.

2010 – 2011 **Master of Science in Teleinformatics and Management in Telecommunication**
Warsaw University of Technology, Poland
Master thesis topic:
"Temporal Synchronization of Acoustic Sensor Networks in Reverberant Environment" completed at Fraunhofer Institute for Integrated Circuits, Germany

2007 – 2008 **Erasmus exchange student**
Universidad Politécnica de Madrid, Spain

2005 – 2010 **Bachelor of Science in Teleinformatics and Management in Telecommunication,**
Warsaw University of Technology, Poland
Bachelor thesis topic:
"Word spotting for Polish language using Hidden Markov Models"

PROFESSIONAL EXPERIENCE

01.2015 - - 07.2015 **Early Stage Researcher in Music Technology Group**
Universidad Pompeu Fabra, Spain
- Preliminary research on audio-visual processing of multiple camera recordings

03.2012 - - 12.2015 **Junior Software Engineer in Human Language Technology Lab,**
Samsung Electronics R&D Center, Poland
- Research on multi-lingual Speech-to-Speech Translation:
  - Development of Natural Language Processing algortihms for Machine Translation engine (Java, C++, Python, Perl and bash scripting)
  - Maintenance of Speech-to-Speech Translation System
  - Coordination and planning of cooperation with external linguists, maintenance of the project Data Base (SQL)

09.2011 – - 12.2011 **Research Engineer in Acoustic Sensor Networks Group**
Fraunhofer Institute for Integrated Circuits, Germany
- Development of a Virtual Microphone, implementation of Direction of Arrival algorithms for microphone arrays (Matlab)

| 09.2010 –
- 06.2011 | **Internship in the Audio Watermarking Group**
Student job in the Acoustic Sensor Networks Group |
| | Fraunhofer Institute for Integrated Circuits, Germany |

- Benchmark tests of Audio Watermark System
- Research on synchronization of acoustic sensors by the usage of Audio Watermark System (Matlab)

| 07.2009–
- 09.2009 | **Student internship in The Institute of Telecommunications and**
Multimedia Applications (iTEAM), |
| | Universidad Politécnica de Valencia, Spain |

- Implementation and Evaluation of a Multiple Input Multiple Output decoder simulator (Matlab)

SELECTED PUBLICATIONS

I. Sobieraj, Q.Kong and M. D. Plumbley, **"Masked Non-negative Matrix Factorization for Bird Detection Using Weakly Labeled Data"**, in Proceedings of the 25th European Signal Processing Conference (EUSIPCO 2017) , September 2017, pp. 1819–1823.

I. Sobieraj and M. D. Plumbley, **"Coupled sparse NMF vs. random forest classification for real life acoustic event detection"**, in Proceedings of the Detection and Classification of Acoustic Scenes and Events 2016 Workshop (DCASE2016), September 2016, pp. 90–94.

F. Kolbeck, G. Del Galdo, I. Sobieraj, T. Bliem, **"Loudspeaker Localization Based on Audio Watermarking"**, Audio Engineering Society Convention 133, October 2012

PUBLIC ENGAGEMENT

Since 10.2015 Organizer of a Python Coding Hub in Woking High School:

- Preparing and conducting every two weeks a two hour Python workshop for approximately 20 children

2006 – 2009 Active member of Board of European Students of Technology (BEST)

AWARDS

12.2017 Travel Grant recipient for Women in Machine Learning workshop (WiML 2017)
12.2016 Travel Grant recipient for Women in Machine Learning workshop (WiML 2016)
05.2016 Scholarship recipient for PyData London Conference
2006-2008 Recipient of Faculty Scholarship awarded to best 10% students of the faculty

SKILLS AND COMPETENCES

Programming languages:	**Python** (Numpy, Scipy, Keras, Scikit-learn), **Matlab**, Perl, bash
Data bases:	MySQL
Operation systems:	MS Windows, Linux
Languages:	**Polish** (mother tongue) **English** (fluent, Certificate of Proficiency in English, 2003) **Spanish** (fluent, Diploma de Español como Lengua Extranjera, Nivel Superior, 2010) **German** (advanced) **Russian** (intermediate)
Personal interests:	Foreign languages, Travelling and discovering other cultures, Music (recorder player, choir singer)