Weipeng He

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Research Interests

Learning-based Multi-microphone Acoustic Signal Processing · Sound Source Localization
Robot Audition · Machine Learning

Education

École Polytechnique Fédérale de Lausanne (EPFL)   Switzerland
  Ph.D. Candidate   enrolled since 2016
  - Thesis (working title): Audio-Visual Tracking for Multi-Party Human-Robot Interaction
  - Supervisors : Dr. Jean-Marc Odobez and Dr. Petr Motlicek

University of Hamburg   Germany
  M.Sc. in *Intelligent Adaptive Systems*, GPA: 1.38/1.0 (excellent)   September 2015

Tsinghua University   China
  B.E. in *Computer Science and Technology*, GPA: 90/100 (top 10%)   July 2012
  B.S. in *Pure and Applied Mathematics* (second major), GPA: 83/100

Experience

Idiap Research Institute   Switzerland
Research Assistant   June 2016 - Present
  - Investigated deep learning-based method for sound source localization in real human robot interaction scenarios. Achieved more than 90% precision and recall for detecting and localizing multiple simultaneous sources in real-time. [video]

  - Investigated method for simultaneous localization and speech/non-speech classification of multiple sound sources. [video]

National University of Singapore   Singapore
Software Engineer   January - May 2016
  - Developed web interface (back-end) of a business insight information retrieval system.

University of Hamburg   Germany
Research Assistant   October 2012 - November 2015
  - Studied interactive object recognition methods with audio-visual sensory fusion.

Hulu (Beijing)   China
Research Intern   July - September 2012
  - Optimized search engine for fast and error tolerant search with fast approximate string matching.

Publications

- **Joint Localization and Classification of Multiple Sound Sources Using a Multi-task Neural Network. Weipeng He**, Petr Motlicek and Jean-Marc Odobez, *Proc. Interspeech 2018* (**nominated for a best student paper award**) [doi, video]

- **Deep Neural Networks for Multiple Speaker Detection and Localization. Weipeng He**, Petr Motlicek and Jean-Marc Odobez, *2018 IEEE International Conference on Robotics and Automation (ICRA)* [doi, video]

- **Multimodal Object Recognition From Visual and Audio Sequences. Weipeng He**, Haojun Guan and Jianwei Zhang, *2015 IEEE International Conference on Multisensor Fusion and Information Integration for Intelligent Systems (MFI)*

- **What to Do First: The Initial Behavior in a Multi-sensory Household Object Recognition and Categorization System.** Haojun Guan, **Weipeng He** and Jianwei Zhang, *2014 IEEE International Conference on Multisensor Fusion and Information Integration for Intelligent Systems (MFI)*

- **THUNLP at TAC KBP 2011 in Entity Linking.** Yu Zhao, **Weipeng He**, Zhiyuan Liu and Maosong Sun, *Proceedings of TAC, 2011*

Technical Skills

Programming:	Python · C · C++ · Java · MATLAB
Libraries:	PyTorch · Gstreamer · OpenCV · GSL · OpenMP · OpenMPI
Other Tools:	Vim · Bash · LaTeX · GDB · Git · Gnuplot

Languages

English:	TOEFL ibt 106 (reading 29 · listening 27 · speaking 23 · writing 27)
Chinese:	Native Speaker
German:	Basic
French:	Basic

Miscellaneous

Interests:	Snowboarding · Classical Guitar
GitHub:	github.com/hwp (highlighted projects: apkit, notGHMM)

Updated on November 28, 2018