Po-Sen Huang

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EDUCATION

University of Illinois at Urbana-Champaign
PhD candidate in in Electrical and Computer Engineering, Aug. 2009-present. GPA 3.93.
National Taiwan University, Taipei, Taiwan
Bachelor in Department of Electrical Engineering, Sep. 2005-Jun. 2008. Overall GPA: 4.00.

RESEARCH INTERESTS

- Machine Learning (Probabilistic Graphical Models, Transfer Learning), Audio/Music/Speech processing.

WORK EXPERIENCE

- Research Intern, SRI International Sarnoff, Princeton NJ, Jun. 2011-Aug. 2011.
- Teaching Assistant, Advanced Engineering Mathematics, University of Illinois, Spring 2011.
- Research Intern, U.S. Army Research Lab, Adelphi, MD, Jun. 2010-Aug. 2010.
- Research Assistant, University of Illinois, Aug. 2009-present.

SELECTED PUBLICATIONS

- **P.-S. Huang**, S. D. Chen, P. Smaragdis, M. Hasegawa-Johnson, "Singing-Voice Separation From Monaural Recordings Using Robust Principal Component Analysis," to appear in ICASSP 2012.
- **P.-S. Huang**, R. Mertens, A. Divakaran, G. Friedland, M. Hasegawa-Johnson, "How to Put It Into Words - Using Random Forests to Extract Symbol Level Descriptions From Audio Content for Concept Detection," to appear in ICASSP 2012.
- R. Mertens, **P.-S. Huang**, L. Gottlieb, G. Friedland, A. Divakaran, M. Hasegawa-Johnson, "On the Application of Speaker Diarization to Audio Indexing of Non-Speech and Mixed Non-Speech/Speech Video Soundtracks," to appear in International Journal of Multimedia Data Engineering and Management (IJDEM), 2012.
- R. Mertens, **P.-S. Huang**, L. Gottlieb, G. Friedland, A. Divakaran, "On the Application of Speaker Diarization to Audio Concept Detection for Multimedia Retrieval," IEEE International Symposium on Multimedia, pp. 446-451, 2011.
- **P.-S. Huang**, M. Hasegawa-Johnson, T. Damarla,, "Exemplar Selection Methods to Distinguish Human from Animal Footsteps," Second Annual Human and Light Vehicle Detection Workshop, Maryland, pp. 14:1-10, 2011.
- **P.-S. Huang**, T. Damarla, M. Hasegawa-Johnson, "Multi-sensory Features for Personnel Detection at Border Crossing," International Conference on Information Fusion, pp. 1-8, 2011.
- **P.-S. Huang**, X. Zhuang, M. Hasegawa-Johnson, "Improving Acoustic Event Detection using Generalizable Visual Features and Multi-modality Modeling," IEEE International Conference on Acoustic, Speech and Signal Processing, pp. 349-352, 2011.
- J.-T. Huang, **P.-S. Huang**, Y. Mo, M. Hasegawa-Johnson, J. Cole, "Prosody-Dependent Acoustic Modeling Using Variable-Parameter Hidden Markov Models," International Conference on Speech Prosody 2010 100623: 1-4.
- C.-C. Cheng, C.-T. Li, **P.-S. Huang**, T.-K. Lin, Y.-M. Tsai, L.-G. Chen, "A block-based 2D-to-3D conversion system with bilateral filter," IEEE International Conference on Consumer Electronics, pp. 1-2, 2009.

RESEARCH EXPERIENCE

- **Multi-dialect Speech Recognition and Machine Translation for Qatari Broadcast TV, Aug. 2011-present**. *Advisor: Professor Mark Hasegawa-Johnson*
    - Exploited transfer learning in multi-dialect Arabic speech recognition.
- **Multimedia Event Detection, Jun. 2011-Dec. 2011** *Advisor: Ajay* Divakaran, *Professor Mark Hasegawa-Johnson.*
    - Participated in TRECVID 2011 Multimedia Event Detection task.
- **Opportunistic Sensing for Object and Activity Recognition from Multi-Modal, Multi-Platform Data, Aug. 2009-Present** *Advisor: Professor Mark Hasegawa-Johnson, Thomas Huang.*
    - ▸**Opportunistic Sensing: Acoustic Sensor Selection.**
    - ▸**Multi-Modal Fusion on Audio-Visual Events Detection.**
    - ▸**Multi-Sensory Fusion for Personnel Detection at Border Crossing.**

HONORS

- Study Abroad Scholarship, Ministry of Education, Taipei, Taiwan, 2009.
- Graduation Representative, Commencement of National Taiwan University Department of Electrical Engineering, Jun. 2008.
- Recipient, Chinese Institute of Engineers Excellent Student in Engineering Award.
- Recipient, Presidential Award, National Taiwan University for top 5% students in each department, 2008.
- Special mention on Dean's List for providing extraordinary assistance to other students on studies, NTU, 2007-2008.

SKILLS

- C, C++, Perl, Python, MATLAB, Shell script, HTK, and Unix/Linux systems.