

Shao-Yen Tseng

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RESEARCH INTERESTS

Machine Learning, Deep Learning, Speech and Audio Processing, Behavioral Signal Processing, Natural Language Processing, Automatic Speech Recognition

EDUCATION

University of Southern California, California, United States Aug. 2014 to present

- Ph.D. in Electrical Engineering
- Advisor: Prof. Panayiotis Georgiou
- GPA: 3.91 / 4.0
- Focus on research in Behavioral Signal Processing, NLP, and ASR

National Chiao Tung University, Hsinchu, Taiwan Sept. 2008 to Dec. 2010

- Master of Science in Electronic Engineering
- Thesis title: "*An Effective Heart Rate Variability Processor Design for Portable 3-Lead ECG Monitoring System-on-Chip*"
- GPA: 4.0 / 4.0

National Sun Yat-sen University, Kaohsiung, Taiwan Sept. 2004 to June 2008

- Bachelor of Science in Electrical Engineering
- GPA: 3.28 / 4.0

SELECTED COURSEWORK

Advanced Natural Language Processing, Machine Learning from Signals, Mathematical Pattern Recognition, Foundations of Artificial Intelligence

RESEARCH EXPERIENCE

- Graduate Research Assistant in Signal Processing for Communication Understanding and Behavior Analysis Laboratory (SCUBA), Ming Hsieh Department of Electrical Engineering, USC, Aug. 2014 to present
- Research Assistant in the National Science Council of Taiwan funded project "System Development and SOC Design of A Truly Portable Neuroimaging System Based on EEG/EKG/fNIRS Multi-sensors", Sept. 2008 to Dec. 2010

WORK EXPERIENCE

- Deep Learning Intern, Bosch Research & Technology Center May 2017 to Aug 2017
- Advanced Engineer, Faraday Technology Corporation Feb. 2012 to July 2014
- Intern, National Chip Implementation Center, Taiwan July 2008 to Sept. 2008

TEACHING EXPERIENCE

- TA for Advanced Digital Signal Processing Design Lab at the University of Southern California, California, Spring 2016 and 2017
- TA for “VLSI Signal Processing” at the Institute of Electronics, National Chiao Tung University, Hsinchu, Taiwan, Spring 2010
- TA for “Biomedical Circuits and Systems” at the Institute of Electronics, National Chiao Tung University, Hsinchu, Taiwan, Fall 2009

PUBLICATIONS

1. **Shao-Yen Tseng**, Brian Baucom, and Panayiotis Georgiou, “Approaching Human Performance in Behavior Estimation in Couples Therapy Using Deep Sentence Embeddings”, *Proceedings of Interspeech, Stockholm, Sweden, Aug. 2017*.
2. **Shao-Yen Tseng**, Sandeep Nallan Chakravarthula, Brian Baucom, and Panayiotis Georgiou, “Couples Behavior Modeling and Annotation Using Low-Resource LSTM Language Models”, *Proceedings of Interspeech, San Francisco, CA, Sept. 2016*
3. **Shao-Yen Tseng**, Wai-Chi Fang, "An EKG System-On-Chip For Portable Time-Frequency HRV Analysis", *IEEE International Conference on Consumer Electronics (ICCE), 2011*
4. **Shao-Yen Tseng**, Wai-Chi Fang, "An Effective Heart Rate Variability Processor Design Based on Time-Frequency Analysis Algorithm Using Windowed Lomb Periodogram" *IEEE Biomedical Circuits and Systems Conference (BioCAS), 2010*
5. **Shao-Yen Tseng**, Chung-Han Tsai, Yu-Sheng Lai, Wai-Chi Fang, "A wireless biomedical sensor network using IEEE802.15.4," *IEEE Life Science Systems and Applications Workshop (LISSA), 2009*
6. Chiu-Kuo Chen, Wai-Chi Fang, Ericson Chua, Chih-Chung Fu, **Shao-Yen Tseng**, “Independent Component Analysis Processor”, U.S. Patent 20120158367
7. Chua E., Wai-Chi Fang, Chiu-Kuo Chen, Fu C., **Shao-Yen Tseng**, Shih Kang, Zong-Han Hsieh, "A Highly-Integrated Biomedical Multiprocessor System For Portable Brain-Heart Monitoring", *IEEE International Symposium on Circuits and Systems (ISCAS), 2011*
8. Chiu-Kuo Chen, Chua E., **Shao-Yen Tseng**, Fu C., Wai-Chi Fang, "Implementation of a Hardware-Efficient EEG Processor For Brain Monitoring Systems", *IEEE International SOC Conference (SOCC), 2010*