

Chen Song

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RESEARCH INTERESTS	Cyber-Physical System (3D Printing) Security and Architecture Design, Machine Learning, Embedded System, Human-Computer Interaction.	
EMPLOYMENT	University at Buffalo, the State University of New York (SUNY) , New York Teaching Assistant, Computer Science & Engineering Department, May. 2014 - present Shanghai Research Institute, Co., Ltd , Shanghai, China Engineer, Letter Sorting R&D Center, Jul. 2010 - Jul. 2012	
EDUCATION	University at Buffalo, the State University of New York (SUNY) , New York Ph.D, Computer Science & Engineering, Aug. 2014 - Present University at Buffalo, the State University of New York (SUNY) , New York M.S., Electrical Engineering, Sep. 2012 - May. 2014 Fudan University , Shanghai, China B.S., Optic Science & Engineering, Jun. 2006 - Jul. 2010	
AWARDS AND HONORS	<ul style="list-style-type: none">• Best Paper Award, IEEE International Conference on Biomedical and Health Informatics (BHI), 2017• Student Travel Award, ACM Conference on Computer and Communications Security (CCS), 2016• Student Travel Award, ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp), 2014	
JOURNAL ARTICLES	J3. Chen Song , Aosen Wang, Kathy Ralabate Doody, Michelle Hartley-McAndrew, Jana Mertz, Feng Lin, Wen Yao Xu, “ <i>A Comparative Study of Social Scene Parsing Strategies between Children with and without Autism Spectrum Disorder</i> ”, The North American Journal of Medical Sciences (NAJMS’16) J2. Yin Bi, Mingsong Lv, Chen Song , Wen Yao Xu, Guan Nan, Wang Yi, “ <i>AutoDietary: A Wearable Acoustic Sensor System for Food Intake Recognition in Daily Life</i> ”, IEEE Sensors Journal (SJ’16) J1. Feng Lin, Yan Zhuang, Chen Song , Aosen Wang, Yiran Li, Changzhan Gu, Changzhi Li, Wen Yao Xu, “ <i>SleepSense: a Noncontact and Cost-effective Sleep Monitoring System</i> ”, IEEE Transactions on Biomedical Circuits and Systems (TBioCAS’15)	

- C17. Jerry Ajay, **Chen Song**, Aditya Singh Rathore, Chi Zhou, Wenyao Xu, “*Instruction Level Power Analysis and Optimization of 3D Printers*”, ACM International Conference on Architectural Support for Programming Languages and Operating Systems (**ASPLOS’17**), Xi’an, China, April 2017
- C16. Tri Vu, Hoan Tran, Kun Woo Cho, **Chen Song**, Feng Lin, Michelle Hartley-McAndrew, Kathy Doody, Chang Wen Chen, Wenyao Xu, “*Efficient and Effective Visual Stimuli Design for Quantitative Autism Screening: An Exploratory Stud*”, IEEE International Conference on Biomedical and Health Informatics (**BHI’17**), Orlando, Florida, February 2017
- C15. **Chen Song**, Aosen Wang, Feng Lin, Ruogang Zhao, Zhanpeng Jin, Wenyao Xu, “*A Temporal-spatial Compressed Sensing Architecture for Efficient High-throughput Information Acquisition in Organs-on-a-chip*”, IEEE International Conference on Biomedical and Health Informatics (**BHI’17**), Orlando, Florida, February 2017 (**Best Paper Award:** 0.3%, 1 out of 322.)
- C14. **Chen Song**, Feng Lin, Zongjie Ba, Kui Ren, Chi Zhou, Wenyao Xu, “*My Smartphone Knows What You Print: Exploring Smartphone-based Side-channel Attacks Against 3D Printers*”, ACM Conference on Computer and Communications Security (**CCS’16**), Vienna, Austria, October 2016
- C13. Kun Woo Cho, Feng Lin, **Chen Song**, Xiaowei Xu, Michelle Hartley-McAndrew, Kathy Doody, Wenyao Xu, “*Gaze-Wasserstein: Exploring A Quantitative Screening Approach to Autism Spectrum Disorder*”, IEEE Annual Wireless Health Conference (**WH’16**), Washington D.C., October, 2016
- C12. Jerry Ajay, Aditya Singh Rathore, **Chen Song**, Chi Zhou, Wenyao Xu, “*Don’t Forget Your Electricity Bills! An Empirical Study of Characterizing Energy Consumption of 3D Printers*”, ACM Asia-Pacific Workshop on Systems (**APSys’16**), Hong Kong, China, August 2016
- C11. Feng Lin, **Chen Song**, Xiaowei Xu, Lora Cavuoto, Wenyao Xu, “*Patient Handling Activity Recognition Approach Through Pressure-Map Manifold Learning Using Smart Insole*”, IEEE 1st International Conference on Connected Health: Applications, Systems and Engineering Technologies (**CHASE’16**), Washington D.C., June 2016
- C10. **Chen Song**, Aosen Wang, Kui Ren, Wenyao Xu, “*EyeVeri: A Secure and Usable Approach for Smartphone User Authentication*”, IEEE International Conference on Computer Communications (**INFOCOM’16**), San Francisco, California, April 2016
- C9. Kun Woo Cho, Feng Lin, **Chen Song**, Xiaowei Xu, Fuxing Gu, Wenyao Xu, “*Thermal Hand-print Analysis for Forensic Identification using Heat-Earth Mover’s Distance*”, IEEE International Conference on Identity, Security and Behavior Analysis (**ISBA’16**), Sendai, Japan, February 2016
- C8. **Chen Song**, Aosen Wang, Kathy Doody, Michelle Hartley-McAndrew, Jana Mertz, Wenyao Xu, “*Analyzing Dynamic Components of Social Scene Parsing Strategy in Autism Spectrum Disorder*”, IEEE International Conference on Biomedical and Health Informatics (**BHI’16**), Las Vegas, California, January 2016
- C7. Yan Zhuang, **Chen Song**, Feng Lin, Yiran Li, Changzhi Li, Wenyao Xu, “*On the Feasibility of Non-contact Cardiac Motion Sensing for Emerging Heart-based Biometrics*”, IEEE Radio and Wireless Symposium (**RWS’16**), Austin, Texas, January 2016
- C6. Feng Lin, Aosen Wang, **Chen Song**, Wenyao Xu, Zhinan Li, Qin Li, “*A Comparative Study of Smart Insole on Real-World Step Count*”, IEEE Signal Processing in Medicine and Biology Symposium (**SPMB’15**), Philadelphia, Pennsylvania, December 2015
- C5. Xiaowei Xu, Feng Lin, Aosen Wang, **Chen Song**, Yu Hu, Wenyao Xu, “*On-bed Sleep Posture Recognition Based on Body-Earth Mover’s Distance*”, IEEE Conference on Circuits and Systems (**BioCAS’15**), Atlanta, Georgia, October 2015

- C4. Aosen Wang, **Chen Song**, Xiaowei Xu, Feng Lin, Zhanpeng Jin, Wenyao Xu, “*Selective and Compressed Sensing for Energy-Efficient Implantable Neural Encoding*”, IEEE Conference on Circuits and Systems (**BioCAS’15**), Atlanta, Georgia, October 2015
- C3. Yan Zhuang, **Chen Song**, Aosen Wang, Feng Lin, Yiran Li, Changzhan Gu, Changzhi Li, Wenyao Xu, “*SleepSense: Non-invasive Sleep Event Recognition Using An Electromagnetic Probe*”, IEEE International Conference on Implantable and Wearable Body Sensor Networks Conference (**BSN’15**), MIT, Cambridge, June 2015
- C2. Aosen Wang, **Chen Song**, Zhanpeng Jin, Wenyao Xu, “*Adaptive Compressed Sensing Architecture in Wireless Brain Computer Interface*”, ACM/IEEE Design Automation Conference (**DAC’15**), San Francisco, California, June 2015
- C1. Aosen Wang, **Chen Song**, Wenyao Xu, “*A Configurable Quantized Compressed Sensing Architecture for Low-Power Tele-Monitoring*”, International Green Computing Conference (**IGCC’14**), Dallas, Texas, November 2014

INVITED TALKS

- T2. “*Eye-based User Authentication in Mobile Smartphones*”, University at Buffalo SUNY, Buffalo, New York, May 2017
- T1. “*Machine Learning and Inclusive Design*”, OCAD University, Toronto, Ontario, April 2017

MEDIA COVERAGE

- Research work on “Smartphone app for early autism detection” [C8, C13] is increasingly reported by public media outlets, including *Eurekalert*, *HealthNewsDigest* and *UB News Center*, November 2016.
- Research work on “Smartphone hacks 3D Printers” [C14] is reported by more than **80** public media outlets, including *NSF Science’360*, *National Science Foundation’s News*, *Communications of the ACM news*, *Science Daily*, *Digital Trend*, *Fedscoop*, and *3DPrint*, October 2016
- Research work on “Smart Necklace for Food-intake Monitoring” [J2] is reported by more than **50** public media outlets, including *The Wall Street Journal*, *National Public Radio’s News*, *Science Daily*, *Sohu.com* and *IEEE Spectrum*, March 2016

TEACHING ASSISTANT

- CSE341: *Computer Organization*, Spring 2016
- CSE341: *Computer Organization*, Fall 2015
- CSE115/116: *Introduction to Computer Science*, Fall 2014, Spring 2015