Weixi Gu

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EDUCATION

University of California, Berkeley. — California, USA
Postdoc Scholar. Advisor: Prof. Costas J. Spanos and Prof. Mosalam Khalid — Oct. 2018 – Present

University of California, Berkeley. — California, USA
Visiting Phd at EECS. Advisor: Prof. Costas J. Spanos — Oct. 2016 – Apr. 2018

Tsinghua University — Beijing, P.R.China
Phd at Tsinghua-Berkeley Shenzhen Institute (TBSI). Advisor: Prof. Lin Zhang — Sep. 2015 – Jun. 2018

Tsinghua University — Beijing, P.R.China
Master at School of Software. Advisor: Prof. Yunhao Liu — Sep. 2012 – Jul. 2015

Shanghai Jiaotong University — Shanghai, P.R.China
Bachelor at School of Information Security — Aug. 2008 – Jul. 2012

RESEARCH INTEREST

- **High-dimensional Data Processing and Analysis**: Analyzing the inner structures and sparse representation of the high-dimensional data.
- **Machine Learning**: Causal structure learning and statistical modelling.
- **Ubiquitous Computing Systems**: Designing and building ubiquitous computational systems for for large-scale mobile data analytics, including human health/safety sensing and spatial-temporal data mining.

ACADEMIC EXPERIENCE

Microsoft Research Asia — Research Intern
Wireless and Networking Group — Oct. 2014 - Mar. 2015

- ○ **Individual Behavior Learning**: Designed and implemented an adaptive mobile computational platform for individual behavior learning.

Microsoft Research Asia — Research Intern
Big Data Mining Group — Jul. 2013 - Aug. 2014

- ○ **Co-reference Resolution**: Designed Co-reference resolution algorithm for Wikipedia database. Ameliorated softmax model to improve the accuracy of the Co-reference algorithms
- ○ **Deep Reading Robot**: Setup a deep reading robot to extract commonsense and understand knowledge on web-scale articles automatically.

Baidu Inc. — Research Intern
Page Search Group — Jun. 2012 - Aug. 2012

- ○ **Web Search and Online Advertising**: The inherent structure mining about user online searching behaviors.

Ebay Inc. — Research Intern
User Recommendation Group — Apr. 2012 - Jun. 2012

- ○ **Group Recommendation**: Optimized the dynamic group recommendation algorithm by Pareto Improvement.

AWARD (SELECTED)

- 2018, Best Paper Award, Mobiquitous — Top 1 in accepted papers.
- 2018, Outstanding Ph.D. Dissertation Award. — Top 1% Tsinghua University.
- 2018, Beijing Outstanding Graduate Student Award. — Top 1% Tsinghua University.
- 2017, National Graduate Scholarship. — Top 1% in TBSI, Tsinghua University.
- 2016, National Graduate Scholarship. — Top 1% in TBSI, Tsinghua University.
- 2016, Best Paper Runner-Up Award, Mobiquitous. — Top 2% in accepted papers.

- 2016, TBSI Outstanding Scholarship.   Top 1% in TBSI, Tsinghua University.

- 2015, Excellent Master Dissertation, Tsinghua University.   Top 1% in School of Software, Tsinghua University.

- 2015, Tomorrow Star of Microsoft Research Asia.   Top 3% in Microsoft Research Asia Internship Program.

- 2014, National Graduate Scholarship.   Top 1% in School of Software, Tsinghua University.

- 2014, Best Paper Award, IEEE Trustcom.   Top 1% in accepted papers.

PUBLICATION

- **Journal**:

  1. SugarMate: Non-intrusive Blood Glucose Monitoring with Smartphones. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies 1.3 (2017)
  Weixi Gu, Yuxun Zhou, Zimu Zhou, Xi Liu, Han Zou, Pei Zhang, Costas J. Spanos, and Lin Zhang.

  2. Measuring fine-grained metro interchange time via smartphones. Transportation Research Part C: Emerging Technologies 81 (2017)
  Weixi Gu, Kai Zhang, Zimu Zhou, Ming Jin, Yuxun Zhou, Xi Liu, Costas J. Spanos, Zuo-Jun Max Shen, Wei-Hua Lin, and Lin Zhang.

  3. Sleep hunter: Towards fine grained sleep stage tracking with smartphones. IEEE Transactions on Mobile Computing 15, no. 6 (2016)
  Weixi Gu, Longfei Shangguan, Zheng Yang, and Yunhao Liu.

  4. Sherlock: Micro-environment sensing for smartphones. IEEE Transactions on Mobile Computing 15, no. 6 (2016)
  Yang Zheng, Longfei Shangguan, **Weixi Gu**, Zimu Zhou, Chenshu Wu, and Yunhao Liu.

  5. Causal Feature Selection on Multivariate Time Series from Sensing Data.   Submitted to IEEE Internet of Things Journal
  Miao He, **Weixi Gu***, Yuxun Zhou, Ying Kong, Lin Zhang, Costas J.Spanos and Khalid Mosalam
  *Corresponding Author and Co-First Author

- **Conference**:
  1. BikeMate: Bike Riding Behavior Monitoring with Smartphones. In MobiQuitous, 2017.
  Weixi Gu, Zimu Zhou, Yuxun Zhou, Han Zou, Yunxin Liu, Costas J. Spanos and Lin Zhang.

  2. MetroEye: Smart Tracking Your Metro Trips Underground. In MobiQuitous, 2016. **Best Paper Runner-up**
  Weixi Gu, Ming Jin, Zimu Zhou, Costas J. Spanos, and Lin Zhang.

  3. Intelligent sleep stage mining service with smartphones.   In Ubicomp, 2014
  Weixi Gu, Zheng Yang, Longfei Shangguan, Wei Sun, Kun Jin, and Yunhao Liu.

  4.Toauth: Towards automatic near field authentication for smartphones. In Trust, Security and Privacy in Computing and Communications (TrustCom), 2014. **Best Paper Award**
  Weixi Gu, Zheng Yang, Longfei Shangguan, Xiaoyu Ji, and Yiyang Zhao.

  5.Non-parametric outliers detection in multiple time series. A case study: Power grid data analysis. In AAAI, 2018
  Yuxun Zhou, Arghandeh Reza, Han Zou, and **Weixi Gu**.

  6. WiFi-based human identication via convex tensor shapelet learning. In AAAI, 2018
  Han Zou, Yuxun Zhou, Jianfei Yang, **Weixi Gu**, Lihua Xie, and Spanos Costas.

  7.Representation Learning for WiFi-Based Human Activity Recognition.   In Machine Learning and Applications, 2017
  Han Zou, Yuxun Zhou, Jianfei Yang, **Weixi Gu**, Lihua Xie, and Spanos Costas.

  8.Freecount: Device-free crowd counting with commodity wifi. In GLOBECOM 2017-2017 IEEE Global Communications Conference
  Han Zou, Yuxun Zhou, Jianfei Yang, **Weixi Gu**, Lihua Xie, and Spanos Costas.

  9. Joint Mobility Pattern Mining with Urban Region Partitions In Mobiquitous 2018 **Best Paper Award**
  Jing Lian, Yang Li, **Weixi Gu**, Shao-Lun Huang, and Lin Zhang.

  10. Multiple Kernel Representation Learning for WiFi-Based Human Activity Recognition Machine Learning and Applications (ICMLA), 2017 16th IEEE International
  Han Zou, Yuxun Zhou, Jianfei Yang, **Weixi Gu**, Lihua Xie, and Spanos Costas.

- **Posters, Demos and PhD Forum Abstracts**:

  1. Predicting Blood Glucose Dynamics with Multi-time-series Deep Learning. In Proceedings of SenSys 17.
  Weixi Gu, Zhou, Z., Zhou, Y., He, M., Zou, H. and Zhang, L.

  2. Non-intrusive blood glucose monitor by multi-task deep learning: PhD forum abstract. In Proceedings of the 16th ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN), ACM, 2017.
  Weixi Gu

  3. Group recommendation: by mining users' check-in behaviors. In Ubicomp, 2017.
  Miao He, **Weixi Gu**, and Ying Kong.

  4. BikeSafe: bicycle behavior monitoring via smartphones. In Ubicomp, 2017.
  Weixi Gu, Yunxin Liu, Yuxun Zhou, Zimu Zhou, Costas J. Spanos, and Lin Zhang.

  5. WiFi-based Device-Free Human Activity Recognition via Automatic Representation Learning. In Proceedings of Mobicom 17.
  Han Zou, Yuxun Zhou, Jianfei Yang, **Weixi Gu**, Lihua Xie, and Spanos Costas.

  6. MetroEye: towards fine-grained passenger tracking underground. In Ubicomp, 2016.
  Weixi Gu, Ming Jin, Zimu Zhou, Costas J. Spanos, and Lin Zhang.

  7. Real-Time Emotion Detection via E-See. In Sensys, 2018.
  Weixi Gu, Yue Zhang, Fei Ma, Khalid Mosalam, Lin Zhang, and Shiguang Ni.

  8. Multimodal Emotion Recognition by extracting common and modality-specific information. In Sensys, 2018.
  Zhang Wei, **Weixi Gu**, Fei Ma, Shiguang Ni, Lin Zhang, and Shao-Lun Huang.

  9. Speech Emotion Recognition via Attention-based DNN from Multi-Task Learning. In Sensys, 2018.
  Fei Ma, **Weixi Gu**, Wei Zhang, Shiguang Ni, Shao-Lun Huang and Lin Zhang

  10. Attention-based LSTM-CNNs For Time-series Classification. In Sensys, 2018.
  Qianjin Du, **Weixi Gu**, Lin Zhang, and Shao-Lun Huang.

Invited Academic Talks

1. Feature Selection on High Dimensional Time Series via Joint Directed Information.
University of California, Berkeley. Oct. 2017
2. Modelling Inherent Data Structure of Blood Glucose Dynamics.
Department of Electrical and Computer Engineering, Stony Brook University. May 2017
3. SugarMate: Non-intrusive Blood Glucose Monitoring with Smartphones.
ECE departments, Carnegie Mellon University, Aug. 2017