Wencan Zhang

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EDUCATION

National Unversity of Singapore, Singapore *August 2018 - Now*
Ph.D in Computer Science

Shanghai Jiao Tong University, China *2016 - 2018*
M.SC.in Electronic & Information Engineering Overall GPA: 3.87 / 4.0 (Top 10%)

IPS, Waseda University, Japan *2014-2016*
(Dual-master Exchange Program with SEIEE)
M.SC in Electronic System Engineering Overall GPA: 4.0 / 4.0 (Top 5%)

Shanghai Jiao Tong University, China *2011-2014*
B.S. in Information Engineering Overall GPA: 3.61 / 4.3 (Top 20%)

CURRENT RESEARCH INTERESTS

Explainable Artificial Intelligence (XAI), Human Machine Collaboration, Privacy Protection, Model Inversion Attack, Applied Machine Learning.

PUBLICATIONS

Zhang, W., and Lim, B.Y. (2022) Towards Relatable Explainable AI with the Perceptual Process. *ACM CHI Conference on Human Factors in Computing Systems, 2022.* Best Paper Award

Zhang, W., Mariella, D., and Lim, B.Y. (2022). Debiased-CAM to mitigate image perturbations with faithful visual explanations of machine learning. *ACM CHI Conference on Human Factors in Computing Systems, 2022.*

Zhao, X., **Zhang, W.** et al (2021). Exploiting Explanations for Model Inversion Attacks. *IEEE International Conference on Computer Vision (ICCV), 2021.*

Wang, D., **Zhang, W.,** and Lim, B.Y. (2021). Show or suppress? Managing input uncertainty in machine learning model explanations. *Artificial Intelligence 294, 2021.*

Tian, X., **Zhang, W.** et al (2018). Towards a Quality-aware Online Pricing Mechanism for Crowd-sensed Wireless Fingerprints. *IEEE Transactions on Vehicular Technology, 67(7):5953-5964, July 2018.*

Tian, X., **Zhang, W.** et al (2017). Online Pricing Crowdsensed Fingerprints for Accurate Indoor Localization. *IEEE 86th Vehicular Technology Conference, Toronto, Canada, September 24-27, 2017.* Best Paper Award

Zhang, W., Huang. H., and Tian, X (2017). Gaussian Process Based Radio Map Construction for LTE Localization. *The 9th International Conference on Wireless Communications and Signal Processing, Nanjing, China, October 11-13, 2017.*

PROJECTS

Relatable Explainable AI Framework
04/2021 - 09/2021, Singapore
In this research project, we built an relatable XAI framework that can provide human-understandable explanation. The proposed solution can facilitate end-users with AI assisted decision-making.

Privacy Leakage from Explainable AI
12/2020 - 03/2021, Singapore
In this research project, we explored and evaluated the potential risk of having XAI as auxiliary information in the model inversion attack setting. The findings calls attention for balancing the dual-requirement between explainability and privacy.

Mitigating Misleading Visual Explanations
02/2020 - 09/2021, Singapore
This is a research project investigating the consequences of having misleading visual explanations. We quantified the effect on several realistic visual perturbation or distortion types, and proposed a simple mitigation scheme.

Localization in 4G Cellular Networks
01/2017 - 08/2017, Shanghai, China
In this research project, we explored the feasibility of fingerprint localization with 4G Cellular Networks in urban areas and proposed a Gaussian Process regression based solution.

AWARDS & SCHOLARSHIPS

ACM Conference on Human Factors in Computing Systems (CHI) Best Paper Award *2022*

NUS Research Scholarship, MOE Singapore. *2018-2022*

IEEE Conference on Vehicular Technology (VTC) Best Paper Award. *2017*

IPS special scholarship for international students, Waseda University *2014-2015*

Honors Scholarship for Privately Financed International Students, Monbukagakusho Japan *2014*

SKILLS

Programming:
Python (familiar with Tensorflow/Keras), JavaScript, C/C++, PhP, Matlab, LaTex.

Data Analysis & Human Evaluation:
JMP (for statistical analysis), Qualtrics and SurveyJS (for survey design),
Interviewing.

Languages:
English, Chinese, Japanese (basic).