Huijing Zhan

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Research Interests

Fashion Image Retrieval & Personalized Recommendation, Knowledge Graph, and Graph Neural Networks

Education

- **Nanyang Technological University (NTU)** — Singapore
  Ph.D. in School of Electrical and Electronic Engineering — *Sep. 2012 – Aug. 2017*
  - Advisor: Prof. Alex Chichung KOT
  - Thesis title: On Shoe Attribute Prediction and Retrieval
  - GPA: 4.67/5.0

- **Tokyo Institute of Technology (Tokyo Tech)** — Tokyo, Japan
  Visiting Student in School of Electrical and Electronic Engineering — *Jun. 2013 – Aug. 2013*

- **Huazhong University of Science and Technology (HUST)** — Wuhan, China
  B.E. in Department of Electronics and Information Engineering — *Sep. 2008 – Jun. 2012*
  - GPA: 86.4/100
  - Enrolled in Advanced Class (Top students selected from 6000 students from 5 departments)

Working Experience

- **Machine Intellection, Agency for Science, Technology and Research (A*STAR)** — Apr. 2019– Present
  3D Object Detection & Personalized Recommendation — *Scientist I*
- **Rapid-Rich Object Search (ROSE) Lab, NTU** — Mar. 2018– Mar. 2019
  Fashion Recommendation on Street Images — *Research Fellow*
- **Rapid-Rich Object Search (ROSE) Lab, NTU** — Sep. 2017– Feb. 2018
  Cross Domain Shoe Retrieval — *Project Officer*
  - Proposed a street-to-shop shoe retrieval system with higher performance and enhanced capability in addressing the case of large viewpoint variation, fine-grained details;)

Journal Publications

- **A3-FKG: Attentive Attribute-Aware Fashion Knowledge Graph for Outfit Preference Prediction**
  Huijing Zhan, *Jie Lin, Kenan Emir Ak, Boxin Shi, Ling-Yu Duan, and Alex C. Kot*
  IEEE Transactions on Multimedia (TMM), 2021

- **Pose-Normalized and Appearance-Preserved Street-to-Shop Clothing Image Generation and Feature Learning**
  Huijing Zhan, *Chenyu Yi, Boxin Shi, Jie Lin, Ling-Yu Duan, and Alex C.Kot*
  IEEE Transactions on Multimedia (TMM), 2020

- **DeepShoe: An improved Multi-Task View-invariant CNN for street-to-shop shoe retrieval**
  Huijing Zhan, *Boxin Shi, Ling-Yu Duan, and Alex C. Kot*
  Computer Vision and Image Understanding (CVIU), 2019

- **Cross-Domain Shoe Retrieval With a Semantic Hierarchy of Attribute Classification Network**
  Huijing Zhan, *Boxin Shi, and Alex C. Kot*
  IEEE Transactions on Image Processing (TIP), 2018

Conference Publications

- **PAN: Personalized Attention Network For Outfit Recommendation**
  Huijing Zhan, *Jie Lin*
  IEEE International Conference on Image Processing (ICIP), 2021

- **A*3D Dataset: Towards Autonomous Driving in Challenging Environments**
  Q.-H. Pham, P. Sevestre, R. Pahwa, **Huijing Zhan**, *C. Pang, Y. Chen, A. Mustafa, V. Chandrasekhar, and J. Lin*
  International Conference on Robotics and Automation (ICRA), 2020

- **Fashion Recommendation on Street Images**
  Huijing Zhan, *Boxin Shi, Jiawei Chen, Qian Zheng, and Alex C. Kot*
  IEEE International Conference on Image Processing (ICIP), 2019

- **DeepShoe: A Multi-Task View-Invariant CNN for Street-to-Shop Shoe Retrieval**
  Huijing Zhan, *Boxin Shi, and Alex C. Kot*
  British Machine Vision Conference (BMVC), 2017

- **Street-to-shop shoe retrieval with multi-scale viewpoint invariant triplet network**
  Huijing Zhan, *Boxin Shi, and Alex C. Kot*
  IEEE International Conference on Image Processing (ICIP), 2017

- **Fashion analysis with a subordinate attribute classification network**
  Huijing Zhan, *Boxin Shi, and Alex C. Kot*
  IEEE International Conference on Multimedia & Expo (ICME), 2017

- **Cross-domain shoe retrieval using a three-level deep feature representation**
  Huijing Zhan, *Boxin Shi, and Alex C. Kot*
  IEEE International Symposium on Circuits and Systems (ISCAS), 2017

- **Tagging the shoe images by semantic attributes**
  Huijing Zhan, *Sheng Li, and Alex C. Kot*
  IEEE International Conference on Digital Signal Processing (DSP), 2015

Professional Activities

- **Reviewer:** International Journal of Computer Vision (IJCV), ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM), ACM Transactions on Information Systems (TOIS), IEEE International Conference on Computer Vision (ICCV), Conference on Computer Vision and Pattern Recognition (CVPR), IEEE International Conference on Image Processing (ICIP)

Awarded Grant

- **AHSF (Principal Investigator)** — Granted: 250K
  Multi-Modality Enhanced Transformer for Trustworthy and Explainable Recommender System — Jan. 2022 – Jan. 2023

- **Astar Core funding (Principal Investigator)** — Granted: 70K
  Interpretable Reinforced Negative Sampling for Efficient Personalized Fashion Recommendation — May. 2021 – Oct. 2021

Teaching Experience

- **Course Teaching**
  Teaching Assistant, Signals and Systems, NTU — 2015
  Teaching Assistant, Digital Signal Processing and Applications, NTU — 2015
  Teaching Assistant, Embedded Systems using NI myDAQ and LabView, NTU — 2014

- **Student Mentoring**
  One NTU MEng and One NUS MSc Students, Project: **Explainable Recommender System** Jan. 2022 – Present
  One NTU MEng and Undergraduate Students, Project: **Reinforced-based Recommender System** April. 2021 – Oct. 2021
  Two NTU Undergraduate Students, Project: **Personalized Fashion Outfit Recommendation** Aug. 2020 – Jan. 2021
  Two Undergraduate Students, Project: **Text-to-Image Synthesis** Aug. 2020 – Jan. 2021

Awards

- **Graduate Scholarship** Jun. 2012 – Aug. 2016
  School of Electric and Electronic Engineering, Nanyang Technological University
- **NATIONAL SCHOLARSHIP** Sep. 2011
  Department of Electrical Engineering, Huazhong University of Science and Technology
- **Merit Student of Advanced Class** Sep. 2011
  Department of Electrical Engineering, Huazhong University of Science and Technology