# TAN WANG

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#### RESEARCH INTERESTS

### Visual Reasoning, Causal Inference, Computer Vision

#### **EDUCATION**

University of Electronic Science and Technology of China (UESTC) Sep. 2016 - Jun. 2020

Honours Degrees, Electronic Information Engineering

**GPA**(Overall): **92.98**/100 or **3.99**/4.0

**Rank**: **2**/284 (Overall) or **1**/415 (first 2 years)

English: IELTS Total: 7.0 (Listening 7.0, Reading 8.0, Writing 6.0, Speaking 6.0)

**Highlighted Courses:** Calculus I (96/100), Calculus II (97/100), Pattern Recognition (99/100), Probability and Mathematical Statistics (96/100), Signals and Systems (95/100), Digital Signal Processing (96/100), Analog

electronic Circuits (96/100), Electromagnetic Field Theory (97/100)

# Chiba University, Japan

Aug. 2017

Exchange Program

Sakura Science Club scholarship awardee. Funded by Japan Science and Technology Agency (JST).

### Nanyang Technological University (NTU), Singapore

Aug. 2020 - Present

2nd Year Ph.D. Student

Supervisor: Prof. Zhang Hanwang

### **PUBLICATIONS**

### Class Re-Activation Maps for Weakly-Supervised Semantic Segmentation

- Zhaozheng Chen, Tan Wang, Xiongwei Wu, Xian-sheng Hua, Hanwang Zhang, Qianru Sun
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2022

### Self-Supervised Learning Disentangled Group Representation as Feature

- Tan Wang, Zhongqi Yue, Jianqiang Huang, Qianru Sun, Hanwang Zhang
- Conference and Workshop on Neural Information Processing Systems (NeurIPS), 2021, **Spotlight Presentation**

### Causal Attention for Unbiased Visual Recognition

- Tan Wang, Chang Zhou, Qianru Sun, Hanwang Zhang
- IEEE International Conference on Computer Vision (ICCV), 2021

### Counterfactual Zero-Shot and Open-Set Visual Recognition

- Zhongqi Yue\*, Tan Wang\*, Hanwang Zhang, Qianru Sun, Xian-sheng Hua
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021

### Visual Commonsense R-CNN

- Tan Wang, Jianqiang Huang, Hanwang Zhang, Qianru Sun
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020

### Visual Commonsense Representation Learning via Causal Inference

- Tan Wang, Jianqiang Huang, Hanwang Zhang, Qianru Sun

<sup>\*</sup> indicates equal contribution

- IEEE Conference on Computer Vision and Pattern Recognition MVM Workshop (CVPRW), 2020, Oral Presentation

### Matching Images and Text with Multi-modal Tensor Fusion and Re-ranking

- Tan Wang, Xing Xu, Yang Yang, Alan Hanjalic, Heng Tao Shen and Jingkuan Song
- ACM Multimedia (ACM MM), 2019 Oral Presentation

### Cross-Modal Attention with Semantic Consistence for Image-Text Matching

- Xing Xu\*, Tan Wang\*, Yang Yang, Lin Zuo, Fumin Shen and Heng Tao Shen
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS), 2020

## Radial Graph Convolutional Network for Visual Question Generation

- Xing Xu\*, **Tan Wang**\*, Yang Yang, Alan Hanjalic and Heng Tao Shen
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS), 2020

### RESEARCH EXPERIENCE

### Nanyang Technological University (NTU)

Jul. 2019 - Present

 $Research\ Assistant,\ MReal\ Lab$ 

Supervised by Prof. Zhang Hanwang.

University of Electronic Science and Technology of China (UESTC) Mar. 2018 - Jun. 2020

Research Assistant, Center for Future Media

Supervised by Prof. Xing Xu and Prof. Yang Yang. Collaborated with Prof. Alan Hanjalic.

### **SCHOLARSHIPS**

Outstanding Graduates of Sichuan Province (Top 1% student)	2020
Outstanding Undergraduate Thesis Award (Top 2% student)	2020
National Scholarship (Top 2% student)	2016-2017
National Scholarship (Top 2% student)	2017-2018
Tang Lixin Sponsored Elite Scholarship (Only 60 awardees per year in UESTC)	2017-2018
Best Freshman Award (Only 1 awardee per year in Department)	2016-2017
Honor Student Scholarship (10 awardees per year in Department)	2017-2018
Outstanding Student Scholarship (Top 10% student)	2016-2019

### **LEADERSHIP**

### Lecture Group of EE Department

Founder & President

Oct. 2017 - Sep. 2018

- Organized academic forum, sharing sessions, Q&A meetings more than 30 times, serving over 1000 students on studying and future planing.
- The team grows to 30 people and won the Outstanding Student Organisation prize in 2018.

### Innovative Entrepreneurship Project of UESTC

Team Leader

Sep. 2017 - Mar. 2018

- This project focus on the pedestrian detection in low-light condition with excellent conclusion. We combine the recent pedestrian detection models with the low-light image enhancement algorithm based on Laplace operator.
- Responsible for the code implementation and project promotion.

### **REVIEWS**

PC Member: ICME'19, CVPR'22, ECCV'22 Journal: IEEE TNNLS, ACM ToMM

# **SKILLS**

Programming LanguagesPython, Matlab, L⁴TEX, ShellDeep LearningPytorch, Tensorflow

Others Multisim, VerilogHDL