

Jianfei Yang

Science is the only way to magic.

recent photo



contact

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languages

Chinese mother tongue
English fluency

research

Mobile Computing
Computer vision
Machine learning

programming

♥ Python
Javascript, C++,
Matlab, Latex
CSS3 & HTML5
Verilog, Scala, Lua
R programming

education

- 2016–present **Doctor of Philosophy** Nanyang Technological University
School of Electrical and Electronic Engineering
Research Interests: **Transfer Learning** (*domain adaptation and generalization*),
Internet of Things (indoor localization and smart home), **Computer Vision**
(object tracking and recognition)
- 2018–2018 **Visiting Scholar** University of California, Berkeley
Department of Electrical Engineering and Computer Sciences (Jan–March)
- 2012–2016 **Bachelor of Software Engineering** Sun Yat-sen University
School of Data and Computer Science (*Major GPA: 3.7/4.0, top 10%*)
Graduate with **certificate of honor** for excellent scientific contribution.

experience

- 2014–2015 **Teaching Assistant** Sun Yat-sen University
Server for the C++ Programming/Cloud Computing Course.
- 2013–2014 **Vision Engineer in DJI** DJI Internship
Dedicated to visual tracking problem applied in UAV as a vision engineer.
- 2013–2014 **Founder: Microsoft Technology Club in Zhuhai** Operation
Undertake seminars and competitions for Microsoft.
- 2012–2013 **Chairman of Student Union** Leadership
Offer welfare and organize various activities.

projects

- 2018 **Deep Learning: Smart Sensing** NTU
We design a deep transfer learning framework for human activity recognition using WiFi data in smart homes. The model employs CNN and LSTM to extract the features and can generalize well for multiple domains.
- 2017 **Smart Building: Indoor localization** Singapore Airlines
We develop an indoor localization system using WiFi routers for Singapore Airlines. Our system employs signal processing and machine learning technologies, and it has been deployed in Germany, USA and Singapore.
- 2016 **NLP / CV: Intelligent Image Retrieval System** Microsoft BOP
The users can use keywords to find the photo they want. We build the system by means of image recognition (extracting tags), voice recognition and natural language processing (semantic understanding).
- 2015 **Robotics: Nao Presentation Tool** Robot Nao Development
It is specially designed for The Canton Fair. I programmed robot Nao to control the PC and make presentations. which was implemented by socket, Nao-api and markup language.
- 2014 **Smart Car: Visual Navigation System** DJI Intern
Build a navigation system for a smart car based on computer vision, which combines SLAM, visual tracking and recognition.

awards

Dec. 2017	2017 Global Data Challenge, Champion (1/771)	JD Finance
May. 2017	Microsoft Imagine Cup in China, First Prize (2/782)	Microsoft
March. 2017	Buidathon of MOE of Singapore, Champion (1/120)	Ministry of Education of SG
Dec. 2016	China Mobile Internet of Things Hackathons, Champion	China Mobile
May. 2016	Microsoft Beauty of Programming Challenge, Champion	Microsoft Research Asia, IEEE
Nov. 2015	National Mobile Internet Innovation Contest, First Prize	Ministry of Industry
Sep. 2015	National Undergraduate IOT Design Contest, First Prize	Ministry of Education of China
Aug. 2015	HackNTU, Intel and Migo Prize	National Taiwan University
Jun. 2015	Unique Hack Day, Rank 2nd	Huazhong University of Science and Technology
Apr. 2015	American Mathematical Contest In Modeling, Meritorious Winner	International
Mar. 2015	Robot Hackathon in China, First Prize	ALDEBARAN
Sep. 2014	Ke-teng Cup Application Competition, First Prize	SYSU
Sep. 2013	Undergraduate First-class Scholarship and Giordano Scholarship	SYSU
Dec. 2012	Global Management Challenge 2nd Prize in China	GMC Committee

Publication: Journals

2018	Device-free Occupancy Sensing Platform using WiFi-enabled IoT Devices for Smart Homes Jianfei Yang , Han Zou, Hao Jiang, Lihua Xie IEEE Internet of Things Journal (IF=7.596)
2018	CareFi: Sedentary Behavior Monitoring System via Commodity WiFi Infrastructures Jianfei Yang , Han Zou, Hao Jiang, Lihua Xie IEEE Transactions on Vehicular Technology (IF=4.066)
2017	Non-intrusive Occupancy Sensing in Commercial Buildings Han Zou, Hao Jiang, Jianfei Yang , Lihua Xie, Costas Spanos Energy and Buildings 2017 (IF=4.067)
2017	Compressive Perceptual Hashing Tracking with Online Foreground Learning Long Chen, Zheng Li, Jianfei Yang Neurocomputing 2017 (IF=3.17)

Publication: Conference

- 2018 **Fine-grained Adaptive Location-independent Activity Recognition using Commodity WiFi** WCNC
Jianfei Yang, Han Zou, Hao Jiang, Lihua Xie
 WCNC 2018
- 2016 **Online Visual Tracking via Correlation Filter with Convolutional Networks** VCIP
Jianfei Yang, Zheng Li, Chang-Dong Wang, Weishi Zheng
 IEEE International Conference on Visual Communications and Image Processing 2016
- 2015 **Compressive Perceptual Hashing Tracking with Online Foreground Learning** ROBIO
Jianfei Yang, Zheng Li, Long Chen, Juazha
 IEEE International Conference on Robotics and Biomimetics 2015
- 2015 **Robust Vehicle Tracking Using Perceptual Hashing Algorithm** ICMLA
Jianfei Yang, Zheng Li, Long Chen
 IEEE International Conference of Machine Learning and Application 2015 .
- 2015 **Traffic Detection System Based on Unmanned Aerial Vehicle Integrated Analysis(UAVIA) in E-Business Logistics** ICEBE
Jianfei Yang, Zhaoyang Zeng, Zhou Fang
 IEEE International Conference on e-Business Engineering 2015
- 2018 **Robust WiFi-based Device-free Gesture Recognition via Unsupervised Adversarial Domain Adaptation** ICCCN
 Han Zou, *Jianfei Yang*, Yuxun Zhou, Lihua Xie, Costas Spanos
 The 27th International Conference on Computer Communications and Networks 2018
- 2018 **WiFi-based Human Identification via Convex Tensor Shapelet Learning** AAAI
 Han Zou, Yuxun Zhou, *Jianfei Yang*, Lihua Xie, Costas Spanos
 AAAI 2018
- 2018 **DeepSense: Device-free Human Activity Recognition via Autoencoder Long-term Recurrent Convolutional Network** ICC
 Han Zou, Yuxun Zhou, *Jianfei Yang*, Hao Jiang, Lihua Xie, Costas Spanos
 IEEE International Conference on Communications 2018
- 2018 **WiFi-based Device-free Gesture Recognition for Smart Home Automation** ICC
 Han Zou, Yuxun Zhou, *Jianfei Yang*, Hao Jiang, Lihua Xie, Costas Spanos
 The 14th IEEE International Conference on Control and Automation 2018
- 2017 **Poster: WiFi-based Device-Free Human Activity Recognition via Automatic Representation Learning** MOBICOM
 Han Zou, Yuxun Zhou, *Jianfei Yang*, Weixi Gu, Lihua Xie, Costas Spanos
 MOBICOM 2017
- 2017 **Multiple Kernel Representation Learning for WiFi-based Human Activity Recognition** ICMLA 2017
 Han Zou, Yuxun Zhou, *Jianfei Yang*, Weixi Gu, Lihua Xie, Costas Spanos
 ICMLA 2017
- 2017 **FreeCount: Device-Free Crowd Counting with Commodity WiFi** GLOBECOM
 Han Zou, Yuxun Zhou, *Jianfei Yang*, Weixi Gu, Lihua Xie, Costas Spanos
 GLOBECOM 2017
- 2017 **FreeDetector: Device-Free Occupancy Detection with Commodity WiFi** SECON
 Workshop
 Han Zou, Yuxun Zhou, *Jianfei Yang*, Weixi Gu
 Workshop on Smart and Connected Indoor Environments, SECON 2017

interests

professional:

- Computer vision (Object recognition and tracking, image processing)
- Android / IOS app development (Specific design for customer)
- PC Software design (Qt for C/C++ and Python)
- Data mining (Participate in a intelligent transportation planning project)
- Cloud computing (Familiar with Windows Azure, SAE, GAE, etc)
- Unmanned aerial vehicle (Control and visual system)

personal:

- Saxophone (Toppest grade certified by the China Conservatory of Music)
- Guitar, Ukulele (Playing and singing)
- Climbing and photography (Outward Bound Trainer certified by the Ministry of human resources and social security in China)