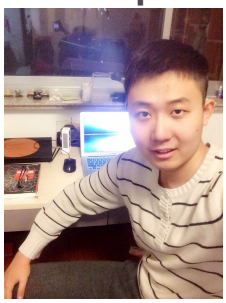
JianfeiYang

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** — School of Electrical and Electronic Engineering
Nanyang Technological University
Research Interests: *Transfer Learning (domain adaptation and generalization), Internet of Things (indoor localization and smart sensing), Computer Vision (object recognition and visual tracking)*

2018–2018 **Visiting Scholar (Jan-March)** — Department of Electrical Engineering and Computer Sciences
University of California, Berkeley

2012–2016 **Bachelor of Software Engineering** — School of Data and Computer Science
Sun Yat-sen University
Graduate with certificate of honor for excellent scientific contribution.

Experience

2014-2015 **Instructor (Teaching Assistant)** — Sun Yat-sen University
Server for the C++ Programming/Cloud Computing Course.

2013-2014 **Vision Engineer in Da-Jiang Innovations (DJI)** — DJI Internship
Dedicated to visual tracking problem applied in UGV/UAV as a vision engineer.

2013–2014 **Founder of 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** — CREST Lab, UC Berkeley
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 Research Asia
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** — Aldebaran
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
Build a navigation system for a smart car based on computer vision, which combines SLAM, visual tracking and recognition.

Awards

July. 2018	**ACM ICMI 2018 Emotion Recognition Challenge, Champion**	ACM ICMI
Dec. 2017	**2017 JD Global Data Challenge, Champion (1/771)**	JD Finance
May. 2017	**Microsoft Imagine Cup in China, First Prize (2/782)**	Microsoft
March. 2017	**Buildathon of MOE of Singapore, Champion (1/120)**	Ministry of Education of SG
Dec. 2016	**China Mobile Internet of Things Hackathons, Champion (1/150)**	China Mobile
May. 2016	**Microsoft Beauty of Programming Challenge, Champion (1/20000)**	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: Journal

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)

2018 **Towards Occupant Activity Driven Smart Buildings Via WiFi-enabled IoT Devices and Deep Learning**
Han Zou, Yuxun Zhou, ***Jianfei Yang***, Costas Spanos
Energy and Buildings 2017 (IF=4.067)

2018 **Device-Free Occupancy Detection and Crowd Counting in Smart Buildings with WiFi-enabled IoT**
Han Zou, Yuxun Zhou, ***Jianfei Yang***, Costas Spanos
Energy and Buildings 2017 (IF=4.067)

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 (selected)

2018 **Deep Recurrent Multi-instance Learning with Spatio-temporal Features for Engagement Intensity Prediction** ACM ICMI
Jianfei Yang, Kai Wang, Xiaojiang Peng, Yu Qiao
Champion of ACM ICMI 2018 Emotion Recognition in the Wild Challenge

2018 **Fine-grained Adaptive Location-independent Activity Recognition using Commodity WiFi** IEEE WCNC
Jianfei Yang, Han Zou, Hao Jiang, Lihua Xie
IEEE WCNC 2018

2016 **Online Visual Tracking via Correlation Filter with Convolutional Networks** IEEE 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, Juanzha
IEEE International Conference on Robotics and Biomimetics 2015

2015 **Traffic Detection System Based on Unmanned Aerial Vehicle Integrated Analysis(UAVIA) in E-Business Logistics** IEEE 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** IEEE 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 (CCF A)

2018 **DeepSense: Device-free Human Activity Recognition via Autoencoder Long-term Recurrent Convolutional Network** IEEE 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** IEEE ICCA
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** ACM MOBICOM
Han Zou, Yuxun Zhou, ***Jianfei Yang***, Weixi Gu, Lihua Xie, Costas Spanos
IEEE MOBICOM 2017 (CCF A)

2017 **Multiple Kernel Representation Learning for WiFi-based Human Activity Recognition** IEEE ICMLA 2017
Han Zou, Yuxun Zhou, ***Jianfei Yang***, Weixi Gu, Lihua Xie, Costas Spanos
IEEE ICMLA 2017

2017 **FreeCount: Device-Free Crowd Counting with Commodity WiFi** IEEE GLOBECOM
Han Zou, Yuxun Zhou, ***Jianfei Yang***, Weixi Gu, Lihua Xie, Costas Spanos
IEEE GLOBECOM 2017

2017 **FreeDetector: Device-Free Occupancy Detection with Commodity WiFi** SECON Workshop
Han Zou, Yuxun Zhou, ***Jianfei Yang***, Weixi Gu, Lihua Xie, Costas Spanos
Workshop on Smart and Connected Indoor Environments, SECON 2017

International patents

2018 **Unsupervised WiFi-enabled Device-User Association for Personalized LBS** IOT
US Patent Application
UC Case: BK-2018-164
The University of California, Berkeley

2018 **Device-free Gesture Recognition** AI & IOT
US Patent Application
UC Case: BK-2018-133 / SG No: 2018/4436755842T
The University of California, Berkeley

2018 **Device-free Human Identification** AI & IOT
US Patent Application
UC Case: BK-2018-132 / SG No: 2018/4436752839T
The University of California, Berkeley

2018 **Device-Free Sedentary Period Detection Using Commodity WiFi Signals** IOT
US Patent Application: 62/716,266
Nanyang Technological University

2018 **Kervolutional Neural Networks** AI
US Patent Application
SG No: 10201802135Y
Nanyang Technological University

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)