Yufeng Zhang

Room 213, East 16 ◊ SJTU, 800 Dongchuan Road ◊ Shanghai 200240, P.R.China
(+86)186-8617-5633 ◊ zhangyuf1995@163.com ◊ http://yufengzhang.me

EDUCATION

Shanghai Jiao Tong University School of Electronic Information and Electrical Engineering *Sep 2013 - Present*
Bachelor of Engineering in Automation (expected June, 2017)

GPA: Overall: 86.5/100; Major: 87.5/100 **Rank**: Top 10%

Selected Courses, Grade: C++ Programming, 90; ARM Embedded Systems and its Experiments, 90; Introductory Pattern Recognition, 90; Data Structure, 92; Signals and Systems, 92; Fundamentals of Digital Image Processing, 93; Communication Fundamentals, 93; Principles of Automatic Control, 94; Nonlinear System, 94; Computer Control Technique, 96; Robotics, 100

Awards:

GuangHua Educational Scholarship, Top 4 in Dept. of Automation *2016*
Arowana Corporation Scholarship, Top 3 in Dept. of Automation *2015*
Meritorious Winner, Mathematical Contest in Modeling (MCM) *2015*
Excellent Student Cadre, Shanghai Jiao Tong University *2014*

PUBLICATIONS AND PATENTS

- Zhiqin Chen, **Yufeng Zhang**, et al. Real-time tag recognition based on morphology and local contrast. In *IEEE International Conference on Real-time Computing and Robotics (RCAR)*, 2016
- Zhiqin Chen, **Yufeng Zhang**, Liqing Zhang. Dynamic gesture recognition in real-time based on generated datasets. Submitted to *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017
- **Co-inventor.** Intelligence Library Management Robot. *National Invention Patent*, No. 201510257563.3
- **Co-inventor.** Self-acting Book Manipulating Mechanism. *National Invention Patent*, No. 201510563923.2
- **Co-inventor.** Automatic Device for Book Managing. *National Invention Patent*, No. 201510563922.8

RESEARCH EXPERIENCE

Department of Computer Science and Engineering, Shanghai Jiao Tong University
Key Laboratory of Shanghai Education Commission for Intelligent Interaction and Cognitive Engineering
Advisor: Prof. Liqing Zhang

Scene Classification, *Team Leader* *Jul 2016 - Sep 2016*

- Participated in IMAGENET Large Scale Visual Recognition Challenge 2016 (ILSVRC 2016)
- Fine-tuned the Inception-v3 net on MXNet with Places365-Challenge dataset, achieving 84.76% accuracy
- Proposed a fusion-feature neural network to classify scenes with 86.26% accuracy
- Extracted features and prepared datasets for the fusion-feature neural network with MATLAB and Python
- Combined the Inception-v3 model, the fusion-feature model and other CNN models together with multiple strategies; accomplished the accuracy at 87.34% (2.33% higher than the baseline)

Video-based Dynamic Gesture Recognition, *Group Member* *May 2016 - Nov 2016*

- Developed a real-time dynamic gesture recognition system; the gesture detection model was derived from YOLO, and the trajectory classification model was based on discrete-HMM

- Proposed a method to artificially generate datasets by synthesizing target objects with background images
- Tested the system with videos recorded in complex backgrounds; the mAP of static gesture detection achieved 94.85%, with all dynamic gestures recognizable
- Led to a manuscript which was submitted to CVPR 2017 and is currently under peer review

Department of Automation, Shanghai Jiao Tong University
MOE Key Laboratory of System Control and Information Processing
Advisor: Prof. Hesheng Wang, IEEE senior member

Design and Implementation of Intelligent Library Management Robot, *Project Leader* *Mar 2015 - May 2016*

- Designed an intelligent library management robot which could automatically pick up or return books
- Proposed algorithms for book identification and robot localization based on tag recognition
- Implemented the motion control and serial communication between computer and Arduino Microcontroller
- Led to 'Excellence' award in SJTU (Top 10%); the design of robot led to three National Invention Patents and the tag recognition methods led to a publication in IEEE-RCAR 2016

INTERNSHIP

Software and Services Group (SSG), Intel Asia Pacific R&D Center

Machine Learning and Translations Team, *Software Engineer Intern* *Oct 2016 - Present*

- Participated in developing algorithms to generate super-resolution images through convolution neural network
- Applied deep learning methods to train the *7Bot Arm* to grasp items from operating table by itself
- Currently working on enabling the manipulator to automatically sort items based on 3D vision and Q-learning

LEADERSHIP AND ACTIVITIES

Science and Technology Association, SJTU, *Vice President* *Sep 2014 - Sep 2015*

- Initiated an activity named *Light of Technology and Innovation*, containing a series of seminars and trainings
- Organized the *Qian Xuesen Cup* in SJTU, a preliminary technology contest for the national *Challenge Cup*

Youth Volunteer Service Group, SEIEE, *Team Leader* *Oct 2013 - Jul 2015*

- Serviced as team leader of volunteers for Shanghai International Marathon, the Anniversary of Shanghai Jiao Tong University, JP Morgan Corporate Challenge SHANGHAI, LI-NING China 10K Running League
- Initiated, organized, and participated in the teaching of hearing-impaired children
- Interviewed students who applied for volunteer positions; trained new volunteers

Volleyball team, SEIEE, *Chief Spiker* *Oct 2013 - Present*

- Won the First Place out of 32 teams in the *Freshmen Cup SJTU* in 2014
- Won the Third Place out of 32 teams in the *Sports-Association Cup SJTU* in 2015
- Practiced volleyball with teammates two or three times a week

ADDITIONAL INFORMATION

- GRE: Verbal 156, Quantitative 168, Analytical Writing 3.0
- TOEFL iBT: 105 (Reading 30, Listening 27, Speaking 23, Writing 25)
- Programming Languages: C/C++, Python, Java, MATLAB
- Tools: LaTeX, OpenCV, Photoshop, LabVIEW
- Additional hobbies: Photography (several photos was admitted by *Bigstock*, a commercial photography website); Travelling (visited over 60 cities in 6 countries and cycled around Taiwan alone for half a month)