YI TIAN

2# Zijing Student Apartment ⋄ Tsinghua University ⋄ Beijing, 100084, P.R.China

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EDUCATION

Tsinghua University, Beijing, China   *2015.08 - 2019.07 (expected)*

· Bachelor of Engineering in Automation (expected)

· GPA: **3.8/4.0** Ranking: **1st/163**

Core Courses

· **Mathematics**: Calculus A(4.0/4.0), Linear Algebra (4.0/4.0), Stochastic Mathematical Methods (3.7/4.0), Introduction to Complex Analysis (4.0/4.0), Signals and Systems Analysis (4.0/4.0), Numerical Analysis and Algorithms (4.0/4.0)

· **EECS**: Computer Languages and Programming (4.0/4.0), Data Structure and Algorithms (4.0/4.0), Principles of Circuits (3.7/4.0), Fundamentals of Digital Electronics (3.7/4.0), Fundamentals of Analog Electronics (4.0/4.0), Computer Principles and Applications (4.0/4.0), Computer Networks and Applications (3.7/4.0), Classical Control Theory (3.7/4.0), Fundamentals of Pattern Recognition (4.0/4.0)

· **Current Courses**: Modern Control Theory, Operations Research, Electrical Machinery and Motion Control Systems

SCHOLARSHIPS & HONORS

2017 Qualcomm Scholarship (Awarded to students with excellent scientific potential, **0.3**%)

2017 Weimin Zheng Scholarship (1 junior in the Dept. of Automation, **1/163**)

2017 Jiang Nanxiang Scholarship (Highest honor for juniors in the Dept. of Automation, **2/600**)

2017 Award for Scientific and Technological Innovations (23/600)

2017 Tsinghua Spark Program Membership (Awarded to undergraduates gifted in research, **47/3600**)

2016 **1st Prize in the 33rd China Regional College Students Physics Competition** (< 0.5%)

2013 **2nd Prize in the 30th National Physics Olympiad** (< 0.01%)

PUBLICATIONS & MANUSCRIPTS

[1] Yansong Tang, **Yi Tian**, Jiwen Lu, Jianjiang Feng, Jie Zhou. Action Recognition in RGB-D Egocentric Videos. Accepted by *2017 IEEE International Conference on Image Processing.* [poster]

[2] Yansong Tang[1], **Yi Tian**[1] **(co-first author)**, Peiyang Li, Jiwen Lu, Jie Zhou. Deep Progressive Reinforcement Learning for Skeleton-based Action Recognition. Accepted by *2018 IEEE Conference on Computer Vision and Pattern Recognition.*

RESEARCH EXPERIENCES

Tsinghua University, Beijing, China   *2016.11 - present*

Institute of Information Processing, Department of Automation

Research Assistant, Advisor: **Associate Prof. Jiwen Lu**

2017.08 - 2017.11

Project: Deep Progressive Reinforcement Learning for Skeleton-based Action Recognition

· Implemented a baseline CNN method for skeletal action recognition

· Formulated the frame refining process as a Markov decision process

· Used reinforcement learning to learn to progressively refine the most informative frames

· Drew on Graph CNN to learn representative features and make predictions

· Achieved competitive results on three widely used benchmarks

· Related work accepted by IEEE CVPR'18

2017.01 - 2017.05

Project: Egocentric Hand Segmentation and its Facilitation to Action Recognition
· Used FCN (Fully Convolutional Neural Networks) to segment human hands in egocentric videos
· Evaluated the FCN method on two hand segmentation datasets: THU-READ and EDSH
· Achieved higher pixel accuracy than the hand-crafted method in CVPR'13
· Built a half-realtime demo system for hand segmentation

2016.11 - 2017.02

Project: Action Recognition in RGB-D Egocentric Videos.
· Released the RGB-D egocentric action dataset THU-READ containing 40 actions, $343,626$ frames
· Proposed Tri-stream Convolutional Networks (TCNet) to fuse modalities
· Achieved competitive performance with state-of-the-art methods
· Related work accepted by IEEE ICIP'17

OTHER AWARDS & HONORS

2017 Excellent Student Cadre of Tsinghua University (**6/600** in the Dept. of Automation)

2017 Award for Excellent Comprehensive Performances (17/600)

2017 Award for Volunteering and Public Services (9/600)

2017 Excellent Student Cadre of Student Association of Science and Technology, Tsinghua University

2016 Award for Excellent Academic Performances (**9/600**)

SOCIAL SERVICE

2018   Reviewer of IScIDE'2018 (*Int'l Conference on Intelligence Science and Big Data Engineering*)
2018   Reviewer of CASE'2018 (*Int'l Conference on Automation Science and Engineering*)
2018   Reviewer of ICPR'2018 (*Int'l Conference on Pattern Recognition*)
2017 - 2018 **Board Chairman** of Spark Program, Tsinghua University
                 organized an industrial visit of 43 people to Germany in August, 2017
                 organized celebrations for important events within the program
                 managed affairs in the 11th Spark Program
2017 - 2018 **Vice President** of Student Association of Science & Technology, Dept. of Automation
                 organized the 19th THU Electronics Design Competition
                 directed the finals of the Electronics Design Competition
                 organized the 15th DA Freshmen C Language Competition, part of THU AI Competition
2016 - 2017 **Director** of Student Association of Science & Technology, Dept. of Automation
2016 - 2017 **Vice Director** of the Office of Student Association of Science & Technology, THU
                 collected and organized the work reports weekly
                 participated in the preparation of the Challenge Cup Sharing Session

PROGRAMMING SKILLS

Proficient   Python, Tensorflow, PyTorch, C#, MATLAB, LaTeX
Familiar   C/C++, Keras, Git, Linux

LANGUAGE SKILLS

TOEFL iBT   102/120 (Reading 29, Listening 23, Speaking 22, Writing 28)
GRE   330/340+4.0/6.0 (Verbal 160, Quantitative 170, Analytical Writing 4.0)
Others   Native of Mandarin; Basic Knowledge of French, German, Spanish