Yaqian ZHANG

CONTACT

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EDUCATION

Nanyang Technological University (NTU) — Singapore
Ph.D. in Computer Science — Aug 2015 – Dec 2019
GPA: 4.83/5 — (Expected)

Shanghai Jiao Tong University (SJTU) — Shanghai, China
B.Eng. in Information Engineering — Sep 2011 – Jun 2015
GPA: 4.53/5

SELECTED PUBLICATIONS

Yaqian Zhang, Wooi-Boon Goh, Bootstrapped policy gradient for difficulty adaptation in intelligent tutoring systems. *In Proc. of the 18th International Conference on Autonomous Agents and Multiagent Systems* (AAMAS 2019 oral), Montreal, Canada, May 1317, 2019. (Acceptance rate = 24.2%)

Yaqian Zhang, Wooi-Boon Goh, The influence of peer accountability on attention during gameplay. *Computers in Human Behavior*, 84 (2018): 18-28. (Impact factor = 4.3)

Yaqian Zhang, Jacek Madziuk, Chai Hiok Quek, Wooi-Boon Goh, Curvature-based method for determining the number of clusters. *Information Sciences*, 415 (2017): 414-428. (Impact factor = 5.5)

RESEARCH EXPERIENCE

Sample efficient policy gradient method — Aug 2017 – Aug 2019, NTU

- Proposed to bootstrap policy gradient with better/worse actions to increase its sample efficiency
- Provided a theoretical guarantee for unbiased convergence;
- Achieved stable and fast convergence in an environment with large action space and short horizon;

Reinforcement Learning, Advisor: Goh Wooi Boon

Machine learning-based dynamic difficulty adaptation — Aug 2017 – Aug 2019, NTU

- Designed and developed an online visual memory game using JavaScript, PHP, MySQL, AWS;
- Collected thousands of gameplay data via the Amazon Mechanical Turk platform;
- Proposed a machine learning-based algorithm to personalize memory training experience

Intelligent Tutoring System, Advisor: Goh Wooi Boon

Understanding cooperative and competitive Gameplay — Aug 2016 – Aug 2017, NTU

- Designed and developed a multi-player tablet game using Unity3D,
- Conducted a user study with 40 participants and analyzed the data using t-test and ANOVA;
- Identified the positive effects of strong peer accountability on attention;

Human Computer Interaction, Advisor: Goh Wooi Boon

Curvature-based method for determining the number of clusters — Aug 2015 – Aug 2016, NTU

- Proposed a new method to determine the cluster number by exploiting the curvature information ;
- Improved prediction accuracy by 10.0% in the experiment of 20 real-world data sets;
- Outperformed existing approaches in challenging datasets with hierarchical structure or intermix clusters.

Cluster Analysis, Advisors: Jacek Madziuk

SSIM-inspired rain removal with quaternion sparse representation   Mar 2014 – Jun 2015, SJTU

- Proposed the definition of structural similarity (SSIM) index in quaternion domain

- Devised SSIM-inspired quaternion sparse representation algorithm for rain removal;

- Achieved improvements of 3.6 dB in PSNR and 0.11 in SSIM compared with previous methods.

Image Processing, Advisor: Xu Yi

AWARDS	AAMAS Student Travel Award	2018 – 2019
	MAGIC Game Design Challenge (3rd prize Winner)	2015 – 2016
	Pan Wen-Yuan Scholarship (top 3%)	2011 – 2012
	Academic Excellence Scholarship (top 5%)	2011 – 2012
	Merit Student Honor in Shanghai Jiao Tong University (3%)	2011 – 2012

SKILLS   Programming: Python, Matlab, C/C++, Tensorflow, rllab
              Web development: PHP, JavaScript, HTML/CSS, MySQL
              Game development: Unity3D
              Languages: Chinese (Native), English (Proficient)

SERVICE   **Teaching Assistant**   2016 – 2018
              CE/CZ3004 Multidisciplinary Design Project (MDP), NTU

              Residential Mentor   2018 – 2019
              Hall 15, NTU

              Reviewer
              Information Sciences