

Yue Meng

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EDUCATION

Ph.D. in Aeronautics and Astronautics Massachusetts Institute of Technology, MA, USA	Sep. 2020 - Current GPA: 5.00/5.00
M.S. in Electrical and Computer Engineering University of California San Diego, CA, USA	Sep. 2017 - Mar. 2019 GPA: 3.97/4.00
B.E. in Department of Automation Tsinghua University, Beijing, China	Aug. 2013 - Jul. 2017 GPA: 87/100, rank: top 30%

FIELD OF INTERESTS

Controllable and interpretable imitation learning; few-shot learning for video understanding; machine learning, reinforcement learning and imitation learning

RESEARCH EXPERIENCE

Research Assistant , Massachusetts Institute of Technology, Cambridge, MA Advisor: Chuchu Fan, Department of Aeronautics and Astronautics – Safe and decentralized multi-agent planning for autonomous driving via control barrier functions	Sep. 2020 - Current
AI Resident , IBM Thomas J. Watson Research Center, NY, USA Advisor: Rogerio S. Feris, Research Manager – Efficient video understanding and few-shot learning – Published the work to ECCV 2020 and ICLR 2021 as first author	Sep. 2019 - Aug. 2020
Research Intern , Honda Research Institute, CA, USA Advisor: Yi-Ting Chen, Research Scientist – Proposed a bird’s-eye view representation for driving scene understanding – Improved classification on Honda Driving Dataset and published the work to ICRA 2020	Mar. 2019 - Jun. 2019
Research Assistant , University of California San Diego, CA, USA Advisor: Nikolay A. Atanasov, Electrical and Computer Engineering – Developed semantic perception and tracking pipeline for 3D reconstruction – Conducted research in object level 3D compression for mapping – Presented on RSS 2018 workshop and published the work to IROS 2019	Jan. 2018 - Mar. 2019
Research Assistant , University of California San Diego, CA, USA Advisor: Dinesh Bharadia, Tara Javidi, Electrical and Computer Engineering – Proposed semantic unsupervised learning framework for depth and flow estimation – Improved depth prediction by 30% over S.O.T.A. and published in CVPR 2019 as first author	Sep. 2018 - Dec. 2018
Research Assistant , Tsinghua University, Beijing, China Advisor: Li Li, Department of Automation – Designed a simulation platform for micro-scope transportation at non-signal intersections – Analyzed cooperative driving strategies and published in IEEE TVT 2018 as first author	Sep. 2015 - Jun. 2017

PUBLICATIONS

- Y. Meng**, R. Panda, C. Lin, P. Sattigeri, L. Karlinsky, K. Saenko, A. Oliva and R. Feris, “AdaFuse: Adaptive Temporal Fusion Network for Efficient Action Recognition,” in *Int. Conf. on Learning Representations (ICLR)*, 2021
- Y. Meng**, C. Lin, R. Panda, P. Sattigeri, L. Karlinsky, K. Saenko, A. Oliva and R. Feris, “AR-Net: Adaptive Frame Resolution for Efficient Action Recognition,” in *European Conf. on Computer Vision (ECCV)*, 2020 (acceptance rate 27.0%)
- C. Li, **Y. Meng**, S. Chan and Y. Chen, “Learning 3D-aware Egocentric Spatial-Temporal Interaction via Graph Convolutional Networks,” in *IEEE Int. Conf. on Robotics and Automation (ICRA)*, 2020
- Q. Feng, **Y. Meng**, M. Shan, and N. Atanasov, “Localization and Mapping using Instance-specific Mesh Models,” in *IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, 2019
- Y. Meng**, Y. Lu, A. Raj, S. Sunarjo, G. Bansal, R. Guo, T. Javidi, and D. Bharadia, “SIGNet: Semantic Instance Aided Unsupervised 3D Geometry Perception,” in *IEEE Conf. on Computer*

Vision and Pattern Recognition (CVPR), 2019 (acceptance rate 25.2%)

Y. Meng, L. Li, F. Wang, K. Li, and Z. Li, “Analysis of Cooperative Driving Strategies for Nonsignalized Intersections,” *IEEE Transactions on Vehicular Technology (TVT)*, 67 (4), 2900-2911

PREPRINTS

Y. Meng, Z. Qin and C. Fan, “Reactive and Safe Road User Simulations using Neural Barrier Certificates”

TEACHING EXPERIENCE

Teaching Assistant, University of California, San Diego, CA, USA Jan. 2019 - Mar. 2019
Instructor: Behrouz Touri, Electrical and Computer Engineering
Course: Stochastic Processes in Dynamic Systems I

PROFESSIONAL EXPERIENCE

Software Engineering Intern, Google Geo, Mountain View, CA, USA Jun. 2019 - Sep. 2019
– Improved user-photo timestamp correction by using image content-based annotation
Software Engineering Intern, Google Ads, New York, NY, USA Jun. 2018 - Sep. 2018
– Migrated Ads prediction modules from Sibyl to Tensorflow platform
System Development Intern, TuSimple, Beijing, China Jul. 2017 - Sep. 2017
– Implemented Faster-RCNN for cameras on bus and optimized the pipeline by 40%

TECHNICAL SKILLS

Programming: Python, C++, Matlab, Julia, C#

Tools: Tensorflow, Pytorch, ROS, Git, Linux, Docker, Kubernetes, L^AT_EX

Languages: Proficient in English and Chinese

GRADUATE COURSES (ALL)

MIT

6.867	Machine Learning	A+
16.413	Principles of Autonomy and Decision Making	A

UCSD

ECE272A	Stochastic Processes in Dynamic Systems I	A+, 1/78
ECE269	Linear Algebra and Applications	A+, 1/191
ECE276A	Sensing and Estimation in Robotics	A, 3/113
ECE273	Convex Optimization and Applications	A, 4/107
ECE271A	Statistical Learning I	A+, 5/202
CSE252A	Computer Vision I	A+, 5/165
CSE253	Neural Networks for Pattern Recognition	A+, 6/212
CSE254	Intrinsic Dimension and Dimension Reduction	A, */18
MATH245B	Convex Analysis and Optimization II	A, */25
ECE271C	Deep Learning and Applications	A, 13/33
MAE281A	Nonlinear Systems	A-, 15/39

AWARDS AND HONORS

Study Scholarship of Tsinghua University, 2014, 2015

Sports Scholarship of Tsinghua University, 2014, 2015

8th award in RoboCup@Home Competition, 2015

The champion in first Tsinghua Undergraduate Class Futsal Match, 2014

1st awards in male 1500m, 4×800m, 4×400m races in Tsinghua Athletic Meeting

1st awards in male 5000m race in Tsinghua Alumni Athletic Meeting

Tsinghua high school male 3000m race **record holder (2012-Present)**