Yue Meng

(858) 257-8666 · mengyuethu@gmail.com · mengyuest.github.io

EDUCATION

Ph.D. in Aeronautics and Astronautics Sep. 2020 - Current
Massachusetts Institute of Technology, MA, USA **GPA: 5.00/5.00**

M.S. in Electrical and Computer Engineering Sep. 2017 - Mar. 2019
University of California San Diego, CA, USA **GPA: 3.97/4.00**

B.E. in Department of Automation Aug. 2013 - Jul. 2017
Tsinghua University, Beijing, China **GPA: 87/100, rank: top 30%**

FIELD OF INTERESTS

Safety-assured autonomy; efficient video understanding; 3D reconstruction; visual odometry

RESEARCH EXPERIENCE

Research Assistant, Massachusetts Institute of Technology, Cambridge, MA Sep. 2020 - Current
Advisor: Chuchu Fan, Department of Aeronautics and Astronautics
- Safety-assured imitation learning for autonomous driving

AI Resident, IBM Thomas J. Watson Research Center, NY, USA Sep. 2019 - Aug. 2020
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

Research Intern, Honda Research Institute, CA, USA Mar. 2019 - Jun. 2019
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**

Research Assistant, University of California San Diego, CA, USA Jan. 2018 - Mar. 2019
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**

Research Assistant, University of California San Diego, CA, USA Sep. 2018 - Dec. 2018
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

Research Assistant, Tsinghua University, Beijing, China Sep. 2015 - Jun. 2017
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

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

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, LaTeX

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

8^{th} award in RoboCup@Home Competition, 2015

The champion in first Tsinghua Undergraduate Class Futsal Match, 2014

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

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

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