Jie(Jay) Mei

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Education

University of Washington (UW) *Seattle, USA*

Ph.D. in Electrical & Computer Engineering, Advisor: Prof. Jenq-Neng Hwang *Expect Aug. 2024*

- Selected Courses: Deep Learning, Computer Vision, Statistical Learning, Natural Language Processing, AI for Engineers

Beijing Institute of Technology (BIT) *Beijing, China*

B.Eng. in Electrical Information Engineering *Sep. 2015 - Jun. 2019*

- Elite Class, Major: Signal and Image Processing (GPA: 4.0/4.0)

University of California, Los Angeles (UCLA) *Los Angeles, USA*

Visiting Research Student in Computer Graphics and Vision *Jul. - Sep. 2018*

- Cross-disciplinary Scholars in Science and Technology Program (CSST, GPA: 4.0/4.0)

Hong Kong University of Science and Technology *Hong Kong, China*

Exchange Student in Computer Science & Engineering *Jun. - Aug. 2017*

- Courses: Introduction to Electro-Robot Design, Python (GPA: 4.3/4.3)

Publications

Jie Mei, Jenq-Neng Hwang, S. Romain, C. Rose, B. Moore, K. Magrane, "Absolute 3D Pose Estimation and Length Measurement of Severely Deformed Fish from Monocular Videos in Longline Fishing," *IEEE ICASSP 2021 (PDF)*

Jie Mei, Jenq-Neng Hwang, S. Romain, C. Rose, B. Moore, K. Magrane, "Video-based Hierarchical Species Classification for Longline Fishing Monitoring," *the 4th Computer Vision for Automated Analysis of Underwater Imagery Workshop, ICPR 2020 (PDF)*

Y. Wang, H. Zhang, Z. Jiang, **Jie Mei**, C. Yang, J.Cai, Jenq-Neng Hwang, "HVPS: A Human Video Panoptic Segmentation Framework", *the 6th Benchmarking Multi-Target Tracking (BMTT) Workshop, ICCV 2021*

H. Zhang, Y. Wang, Z. Jiang, C. Yang, **Jie Mei**, J.Cai, Jenq-Neng Hwang, "U3D-MOLTS: Unified 3D Monocular Object Localization, Tracking and Segmentation", *the 6th Benchmarking Multi-Target Tracking (BMTT) Workshop, ICCV 2021*

Research Experience

Semantic-Guided Self-Supervised 3D Mesh Reconstruction from Videos IPL, UW

Research Assistant, Advisor: Prof. Jenq-Neng Hwang *Jul. 2021 - Present*

- Implemented and analyzed self-supervised approaches: GAN on sampled/interpolated novel shape embedding, self-consistency/content loss, assign semantic meaning for each vertex, enforced symmetry.
- Implemented and analyzed monocular video-based approaches: optical flow pseudo ground truth, linear-blend skinning for deformation modeling.

Template-based 3D Shape Estimation of Deformed Fish from Videos IPL, UW

Research Assistant, Advisor: Prof. Jenq-Neng Hwang *Aug. 2021 - Present*

- Proposed a monocular video-based iterative optimization approach and modeled fish deformation with linear-blend skinning.

Few-Shot Learning for Detection Image and Video Group, Megvii

Software Engineer Intern, Advisor: Principal Scientist Chi Zhang *Jun. - Sep. 2019*

- Applied published papers' few-shot learning ideas on a single-shot detector (SSD).

Medical Image Segmentation Graphics & Vision Lab, UCLA

Visiting Student, Advisor: Distinguished Prof. Demetri Terzopoulos *Jul. - Oct. 2018*

- Built a unified auto-initialization pipeline for three organs for active contour model (ACM). This pipeline eliminated the need for doctors to click on a medical image.

Temporal Processing in Gait Recognition Computer Vision Group, Tsinghua University

Research Assistant, Advisor: Prof. Shengjin Wang *Sep. 2017 - Nov. 2018*

- Developed a bi-directional RNN model for person re-identification via gait recognition.

Selected Awards & Honors

2021	**1st Place in ICCV 2021 BMTT Workshop**
2021	**Honorable Mention Award in CVPR 2021 NTIRE Challenge**
2017	**Principal Xu-Teli Scholarship**,The highest honor in BIT
2016 & 2017	**National Scholarship**, China, Top 1% in academic performance in BIT
2016	**Silver Award**, China, National College Students Physics Contest Top 5%
2016	**Gold Award**, Beijing, College Students Mathematical Modeling Contest Top 5%

Computer Skills

- Proficient in Python, Matlab, C++, C
- Skilled in deep learning framework: PyTorch, TensorFlow
- Machine Learning, provided by Stanford University (score: 98/100), certificate
- Deep Learning, provided by deeplearning.ai, given by Prof. Andrew Ng, certificate