Yongxin (Richard) Wang

http://yongxinw.github.io

Email : yongxinw@alumni.cmu.edu

Mobile : +1 (678)-899-3501

Education

- **Carnegie Mellon University** — Pittsburgh, PA
  Master of Science in Computer Vision — *Aug. 2018 – Dec. 2019*
- **Georgia Institute of Technology** — Atlanta, GA
  B.S. in Computer Science, B.S. in Industrial and System Engineering; — *Aug. 2013 – May. 2018*
  Honors: Summa Cum Laude

Publications

[1] Y. Xing, T. He, T. Xiao, **Y. Wang**, Y. Xiong, W. Xia, DW. Paul, Z. Zhang, S. Soatto, "Learning Hierarchical Graph Neural Networks for Image Clustering", in ***ICCV* 2021** [PDF] Code

[2] **Y. Wang***, J. Yang*, R. Yi, Y. Zhu, A. Rehman, A. Zadeh, S. Poria, L.P. Morency, "MTAG: Modal-Temporal Attention Graph for Unaligned Human Multimodal Language Sequences", in ***NAACL-HLT* 2021** [PDF] [Code (23 Stars)] (** indicates equal contribution*)

[3] **Y. Wang**, K. Kitani, X. Weng, "Joint Object Detection and Multi-Object Tracking with Graph Neural Networks", in ***ICRA* 2021** [PDF] [Code (419 Stars)]

[4] J. Yang*, Y. Zhu, **Y. Wang**, R. Yi, A. Zadeh, L.P. Morency, "What gives the answer away? question answering bias analysis on video qa datasets", in ***ACL* 2020 Human Multimodal Language Workshop** [PDF]

[5] E. Chong, **Y. Wang**, N. Ruiz, J. Rehg, "Detecting Attended Visual Targets in Video", in ***CVPR 2020*** [PDF] [Code (94 Stars)]

[6] X. Weng, **Y. Wang**, Y. Man, K. Kitani, "Gnn3dmot: Graph neural network for 3d multi-object tracking with 2d-3d multi-feature learning", in ***CVPR 2020*** [PDF]

[7] E. Chong, N. Ruiz, **Y. Wang**, Y. Zhang, A. Rozga, J. Rehg, "Connecting Gaze, Scene, and Attention: Generalized Attention Estimation via Joint Modeling of Gaze and Scene Saliency", in ***ECCV 2018*** [PDF] [Code (94 Stars)]

[8] A. Godwin, **Y. Wang**, J. Stasko, "TypoTweet Maps: Characterizing Urban Areas through Typographic Social Media Visualization", short paper in ***European Conference on Visualization 2017*** [PDF]

Selected Experience

- **Amazon AWS AI - Rekognition** — Seattle, WA
  Applied Scientist — *Mar. 2020 - present*
  - Designing and implementing novel AI/ML algorithms for face recognition technology
- **Carnegie Mellon University** — Pittsburgh, PA
  Capstone Project with Prof. Kris Kitani — *Aug. 2018 - Mar. 2020*
  - Graph Neural Network (GNN) for Simultaneous Detection and Association for Multi-Object Tracking (MOT) [3]
    - Proposed the first GNN method for simultaneous detection and association for multi-object tracking
    - Achieved State-of-the-art performance on MOTChallenge
- **Carnegie Mellon University** — Pittsburgh, PA
  Research Assistant with Prof. Louis-Philippe Morency — *Aug. 2019 - Mar. 2020*
  - Designed a Graph Neural Network based method for modeling multimodal temporal human language sequences [2]
  - Built deep face counting and deep face tracking pipelines
- **Amazon AWS AI** — Seattle, WA
  Applied Scientist Intern with Dr. Wei Xia — *May 2019 - Aug. 2019*
  - Designed high resolution face synthesis with disentangled control through facial identity and attributes
  - Presented work to all Amazon Scientist across the globe at Amazon All-Hands meeting
- **Georgia Institute of Technology** — Atlanta, GA
  Research Assistant with Prof. Jim Rehg — *Jan. 2017 - May 2018*
  - Gaze target prediction in video [5].
    - Designed a spatial-temporal architecture for gaze target prediction in video

- Gaze target prediction in the wild [7].
  - Annotated human gaze targets as in-image and out-of-image for 120,000 sample
  - Performed experiments and designed baseline ablations

- **ADP LLC** Atlanta, GA
  Software Development Intern - Full Stack *May 2017 - Aug. 2017*
  - Designed the backend for ADP Web Service Monitor Tool using NodeJS, ExpressJS and MongoDB
  - Implemented the front-end user interaction, including user registration, login/logout, customizing service monitoring types
- **Georgia Institute of Technology** Atlanta, GA
  Research Assistant with Prof. John T. Stasko *Aug. 2016 - Mar. 2017*
  - TypoTweet Maps – Characterizing Urban Areas through Typographic Social Media Visualization [8].
    - Designed a novel visualization method to display tweets on as a typographical map with respect to their locations using *d3.js*

Service

Conference Reviewer for **NeurIPS'21**, **IJCAI'21**, **NAACL-HLT'21**

Programming Skills

- **Languages**: Python, MatLab, Java, C++ **Technologies**: PyTorch, NumPy, Tensorflow, OpenCV, AWS

Selected Projects

- **Face Counting:** Designed a method to count the number of unique faces within a set of images
- **Attended One-Stage Visual Grounding:** Built a project on language grounding in images using attention
- **Face Tracking in Video:** Implemented a project to track human faces within videos while working on Social-IQ
- **Facial-Vocal GAN:** Designed a multi-modal Generative Adversarial Network for talking face generation
- **Multi-Source Domain Adaptation:** Applied Model Agnostic Meta-Learning for multi-source domain adaptation