Yongxin (Richard) Wang

http://yongxinw.github.io

EDUCATION

• Carnegie Mellon University

Master of Science in Computer Vision; GPA: 4.0/4.33

• Georgia Institute of Technology

Bachelor of Science in Computer Science; GPA: 3.67/4.0

Bachelor of Science in Industrial and System Engineering; GPA: 3.67/4.0

Pittsburgh, PA

Aug. 2018 - Dec. 2019

Atlanta, GA

Aug. 2013 - May. 2018

Email: yongxinw@andrew.cmu.edu

Mobile: +1 (678)-899-3501

# Publications

[1] Y. Wang, X. Weng, K. Kitani, "Graph Neural Network for Simultaneous Detection and Association for Multi-Object Tracking", work under progress

[2] E. Chong, Y. Wang, N. Ruiz, J. Rehg, "Detecting Attended Visual Targets in Video", in CVPR 2020

[3] X. Weng, Y. Wang, Y. Man, K. Kitani, "Graph Neural Network for 3D Multi-Object Tracking with Multi-Feature Learning", in *CVPR* 2020

[4] 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]

[5] 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

### • Carnegie Mellon University

Capstone Project with Prof. Kris Kitani

Pittsburgh, PA Jan. 2019 - Present

o Graph Neural Network (GNN) for Simultaneous Detection and Association for Multi-Object Tracking (MOT) [1]

- Proposed the first GNN method for simultaneous detection and association for multi-object tracking
- Achieved performance competitive to state of the art MOT Benchmark (MOTA 56.6/48.7 on MOT15/17)
- Worked on 2D/3D Multi-Object Tracking using GNN [2]. Paper submitted.

#### • Carnegie Mellon University

Pittsburgh, PA

Research Assistant with Prof. Louis-Philippe Morency

Aug. 2019 - Preseent

- o Implemented a Graph Neural Network based method for social intelligence modeling on Social-IQ dataset
- Built deep face counting and deep face tracking pipelines for data preprocessing

• Amazon

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 [3]. Work done while at CMU, paper submitted.
  - Designed a spatial-temporal architecture for gaze target prediction in video
- Gaze target prediction in the wild [4]. Paper accepted in ECCV 2018
  - Annotated human gaze targets as in-image and out-of-image for over 120,000 images
  - Performed experiments and compared against baseline methods

# • ADP LLC Software Development Intern

Atlanta, GA

May 2017 - Aug. 2018

- o Designed the backend pipeline for ADP Web Service Monitor Tool using NodeJS, ExpressJS and MongoDB
- Functionalities include user registration, login/logout, continuous/manual service monitoring

#### 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

## Programming Skills

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