

Yanyu Xu

393 Huaxia St. · Pudong, Shanghai · (+86) 18621772305 · xuyy2@shanghaitech.edu.cn · [MainPage](#)

- RESEARCH INTERESTS** I am interested in computer vision and deep learning, especially human-centric tasks in image or video, including visual attention prediction, pedestrian trajectory prediction, pose estimation and dancing to music.
- EDUCATION** **ShanghaiTech University**, Shanghai, China *Sep. 2015 - Present*
Ph.D. Candidate in Computer Science *Advisor: Dr. Shenghua Gao*
National University of Singapore, Singapore *Aug. 2019 - Jan. 2020*
Visiting Ph.D student *Advisor: Dr. Jiashi Feng*
Dalian University of Technology, Dalian, China *Sep. 2011 - Jul. 2015*
B.Eng. in Network Engineering *GPA: 89.7/100*
- CONFERENCE PAPERS** Lei Jin*, **Yanyu Xu***, Jia Zheng, Junfei Zhang, Rui Tang, Jingyi Yu and Shenghua Gao: “Geometric Structure Based and Regularized Depth Estimation From 360° Indoor Imagery”. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020.
Yanyu Xu, Yanbing Dong, Junru Wu, Zhengzhong Sun, Zhiru Shi, Jingyi Yu and Shenghua Gao: “Gaze Prediction in Dynamic 360° Immersive Videos”, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018.
Yanyu Xu*, Zhixin Piao*, and Shenghua Gao: “Encoding Crowd Interaction with Deep Neural Network for Pedestrian Trajectory Prediction”, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018. [* indicates equal contribution]
Ziheng Zhang*, **Yanyu Xu***, Jinyi Yu, and Shenghua Gao, “Saliency Detection in 360° Videos”, *European Conference on Computer Vision, (ECCV)*, 2018. [* indicates equal contribution]
Quan Chen, Tiezheng Ge, **Yanyu Xu**, Zhiqiang Zhang, and Kun Gai, “Human Semantic Matting”, *ACM International Conference on Multimedia (ACM MM)*, 2018.
Yanyu Xu, Nianyi Li, Junru Wu, Jingyi Yu, and Shenghua Gao, “Beyond Universal Saliency: Personalized Saliency Prediction with Multi-task CNN”, *In Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 2017. (**Outstanding Student Paper Runner-up**).
Yanyu Xu, Shenghua Gao: “Bi-Level Multi-Column Convolutional Neural Networks for Facial Landmark Point Detection”, *European Conference on Computer Vision Workshop, (ECCVW)* 2016.
- JOURNAL PAPERS** **Yanyu Xu**, Shenghua Gao, Junru Wu, Nianyi Li and Jingyi Yu, “Beyond Universal Saliency: Personalized Saliency and its Prediction”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*.
Yanyu Xu, Zhixin Piao, Wen Liu, Ziheng Zhang, and Shenghua Gao: “SUNNet: A Novel Framework for Simultaneous Human Parsing and Pose Estimation”, *Neurocomputing* .
Dongze Lian, Shenghua Gao, Lina Hu, Weixin Luo, **Yanyu Xu**, Lixin Duan, and Jingyi Yu, “Multi-view Multi-task Gaze Prediction with Deep Convolutional Neural Networks”, *IEEE Transactions on Neural Networks and Learning Systems, TNNLS*,
- PAPERS IN SUBMISSION** **Yanyu Xu**, Zhixin Piao, Peiyao Wang, Jiashi Feng and Shenghua Gao: “DancingPose: A Simple Model for Predicting Dancing Pose Sequence from Music”.
Peiyao Wang, Weixin Luo, **Yanyu Xu** and Shenghua Gao: “SIRI-SDR: Spatial Relation Induced Spatial Description Resolution”.
Yanyu Xu, Yingying Zhang, Zhengxin Li, Desen Zhou, Siqin Chen, Yi Ma and Shenghua Gao, “Multi-column CNN and its Applications for Crowd Counting and Face Alignment”, *International Journal of Computer Vision (TIP)*. (Under review)
Yanyu Xu, Ziheng Zhang, and Shenghua Gao, “Spherical CNNs for Saliency Detection and Gaze Prediction in 360° Videos”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*. (Under review)

Yanyu Xu, and Shenghua Gao, "Saliency Detection with Visual and Auditory Information in 360° Videos", *IEEE Signal Processing Letters*. (Under review)

TEACHING Teaching Assistant at ShanghaiTech University for:

- EXPERIENCE
- Computer Vision II, Spring 2017
 - Deep Learning, Fall 2016

Instructor: Dr. Shenghua Gao

Instructor: Dr. Yi Ma

INTERNSHIP Alimama Department, the Alibaba Group

EXPERIENCE *Research Intern*

Mar. 2018 - Sep. 2018

Advisor: Dr. Tiezheng Ge

PROJECT Personalized Saliency and its Prediction

Aug. 2016 - Sep. 2017

EXPERIENCE

- We propose the first work that considers the personalized saliency.
- We design two models that decomposes a PSM into the combination of USM and discrepancy map between the PSM and USM, including a multi-task CNN framework and a multi-task CNN framework

Spherical CNNs for Saliency Detection and Gaze Prediction in 360° Videos *Jan. 2018 - Mar. 2019*

- We define some new spherical operations including spherical convolution, spherical pooling, spherical ConvLSTM cell and spherical MSE loss to deal with the distortion problem for panoramic data.
- Our proposed spherical operations are more natural and useful for human visual attention prediction tasks *i.e.* saliency detection and gaze prediction in 360° videos.

TALKS

DancingPose: A Simple Model for Predicting Dancing Pose Sequence from Music

Invited talk at NUS LV Lab seminar, Dec. 2019.

DancingPose: A Simple Model for Predicting Dancing Pose Sequence from Music

Invited talk at Huawei-NUS Advanced Deep Learning Forum, Nov. 2019.

Beyond Universal Saliency Detection

Invited talk at CS Department, Shanghai University, Nov. 2018.

PROFESSIONAL **Conference reviewer:** CVPR2019, ICCV2019, AAAI2019, CVPR2020, ECCV2020.

SERVICES **Journal reviewer:** IEEE TIP, TCSVT, NeuroComputing.

SKILLS

Python, MATLAB, C++, Caffe, PyTorch, Tensorflow, L^AT_EX

AWARDS

- Nomination Award of the 2018 Microsoft Research Asia Fellowship
- National Scholarship for Doctoral Students 2018
- Outstanding Student of ShanghaiTech University, 2018 - 2019
- Finalist, Outstanding Student Paper Runner-up of IJCAI 2017
- China National Post-Graduate Mathematical Contest in Modeling, Third Prize, 2017
- Outstanding Student of ShanghaiTech University, 2016 - 2017
- Outstanding Student of ShanghaiTech University, 2015 - 2016

REFERENCES **Shenghua Gao**

Assistant Professor
School of Information Science and Technology
ShanghaiTech Univeristy

Phone: +(86)185-2105-2610

E-mail: gaoshh@shanghaitech.edu.cn

Jiashi Feng

Assistant Professor
Learning and Vision Group, Department of ECE
National University of Singapore

E-mail: elefjia@nus.edu.sg