

Yanyu Xu

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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	<i>Sep. 2015 - Present</i>
	<i>Ph.D. Candidate in Computer Science</i>	<i>Advisor: Dr. Shenghua Gao</i>
	National University of Singapore , Singapore	<i>Aug. 2019 - Jan. 2020</i>
	<i>Visiting Ph.D student</i>	<i>Advisor: Dr. Jiashi Feng</i>
	Dalian University of Technology , Dalian, China	<i>Sep. 2011 - Jul. 2015</i>
	<i>B.Eng. in Network Engineering</i>	GPA: 89.7/100
CONFERENCE PAPERS	Yanyu Xu , Yanbing Dong, Junru Wu, Zhengzhong Sun, Zhiru Shi, Jingyi Yu and Shenghua Gao: “Gaze Prediction in Dynamic 360° Immersive Videos”, <i>IEEE Conference on Computer Vision and Pattern Recognition (CVPR)</i> , 2018.	
	Yanyu Xu* , Zhixin Piao*, and Shenghua Gao: “Encoding Crowd Interaction with Deep Neural Network for Pedestrian Trajectory Prediction”, <i>IEEE Conference on Computer Vision and Pattern Recognition (CVPR)</i> , 2018. [* indicates equal contribution]	
	Ziheng Zhang*, Yanyu Xu* , Jinyi Yu, and Shenghua Gao, “Saliency Detection in 360° Videos”, <i>European Conference on Computer Vision, (ECCV)</i> , 2018. [* indicates equal contribution]	
	Quan Chen, Tiezheng Ge, Yanyu Xu , Zhiqiang Zhang, and Kun Gai, “Human Semantic Matting”, <i>ACM International Conference on Multimedia (ACM MM)</i> , 2018.	
	Yanyu Xu , Nianyi Li, Junru Wu, Jingyi Yu, and Shenghua Gao, “Beyond Universal Saliency: Personalized Saliency Prediction with Multi-task CNN”, <i>In Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)</i> , 2017. (Outstanding Student Paper Runner-up).	
	Yanyu Xu , Shenghua Gao: “Bi-Level Multi-Column Convolutional Neural Networks for Facial Landmark Point Detection”, <i>European Conference on Computer Vision Workshop, (ECCVW)</i> 2016.	
JOURNAL PAPERS	Yanyu Xu , Shenghua Gao, Junru Wu, Nianyi Li and Jingyi Yu, “Beyond Universal Saliency: Personalized Saliency and its Prediction”, <i>IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)</i> . (Accepted)	
	Yanyu Xu , Zhixin Piao, Wen Liu, Ziheng Zhang, Jingyi Yu, and Shenghua Gao: “SUNNet: A Novel Framework for Simultaneous Human Parsing and Pose Estimation”, <i>Neurocomputing</i> . (Accepted)	
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”. (CVPR 2020 Under review)	
	Lei Jin*, Yanyu Xu* , Jia Zheng, Jingyi Yu and Shenghua Gao: “Geometric Structure Based and Regularized Depth Estimation From 360° Indoor Imagery”. (CVPR 2020 Under review)	
	Peiyao Wang, Yanyu Xu , Weixin Luo and Shenghua Gao: “SIRI-SDR: Spatial Relation Induced Spatial Description Resolution”. (CVPR 2020 Under review)	
	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”, <i>International Journal of Computer Vision (TIP)</i> . (Under review)	
	Yanyu Xu , Ziheng Zhang, and Shenghua Gao, “Spherical CNNs for Saliency Detection and Gaze Prediction in 360° Videos”, <i>IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)</i> . (Under review)	
	Yanyu Xu , and Shenghua Gao, “Saliency Detection with Visual and Auditory Information in 360° Videos”, <i>IEEE Signal Processing Letters</i> . (Under review)	

TEACHING EXPERIENCE	Teaching Assistant at ShanghaiTech University for: <ul style="list-style-type: none"> • Computer Vision II, Spring 2017 • Deep Learning, Fall 2016 	<i>Instructor: Dr. Shenghua Gao</i> <i>Instructor: Dr. Yi Ma</i>
INTERNSHIP EXPERIENCE	Alimama Department, the Alibaba Group <i>Research Intern</i>	<i>Mar. 2018 - Sep. 2018</i> <i>Advisor: Dr. Tiezheng Ge</i>
PROJECT EXPERIENCE	Personalized Saliency and its Prediction <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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>i.e.</i> saliency detection and gaze prediction in 360° videos. 	<i>Aug. 2016 - Sep. 2017</i> <i>Jan. 2018 - Mar. 2019</i>
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 SERVICES	Conference reviewer: CVPR2019, ICCV2019, AAAI2019, CVPR2020, ECCV2020. Journal reviewer: IEEE TIP, TCSVT, NeuroComputing.	
SKILLS	Python, MATLAB, C++, Caffe, PyTorch, Tensorflow, L ^A T _E X	
AWARDS	<ul style="list-style-type: none"> • 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 University Jiashi Feng Assistant Professor Learning and Vision Group, Department of ECE National University of Singapore	Phone: +(86)185-2105-2610 E-mail: gaoshh@shanghaitech.edu.cn E-mail: elefjia@nus.edu.sg