Schedule

Vision & Learning Reading Group

Fall 2019

Week/Date	Papers	Slides	Presenter
8/30	Video Segmentation: MaskTrack:http://openaccess.thecvf.com/content_cvpr_2017/papers/Perazzi_Learning_Video_Object_CVPR_2017_paper.pdf FEELVOS: http://openaccess.thecvf.com/content_CVPR_2019/papers/Voigtlaender_FEELVOS_Fast_End-To-End_Embedding_Learning_for_Video_Object_Segmentation_CVPR_2019_paper.pdf MOTS: https://arxiv.org/abs/1902.03604 Video Instance Segmentation: https://arxiv.org/abs/1905.04804	Video segmentation.pptx	Fengting
9/6	**Topic: Active Vision System** Embodied Visual Recognition: https://arxiv.org/pdf/1904.04404.pdf Learning_to_look_around: http://www.cs.utexas.edu/~grauman/papers/lookaround_cvpr2018.pdf RL_Manipulating_Objects: https://arxiv.org/pdf/1811.08067.pdf	Active Vision System	Zihao
9/13	DaML Study Group		

9/20	Topic: **Human Trajectory Prediction**
	
	• Survey
	  • Human Motion Trajectory Prediction: A Survey. arXiv 1905.06113.
	• Related papers from Stanford Vision and Learning Lab (SVL)
	  • Social LSTM: Human Trajectory Prediction in Crowded Spaces. CVPR 2016.
	  • Social GAN: Socially Acceptable Trajectories with Generative Adversarial Networks. CVPR 2018.
	  • SoPhie: An Attentive GAN for Predicting Paths Complaint to Social and Physical Constraints. CVPR 2019.
	  • Social-BiGAT: Multimodal Trajectory Forecasting using Bicycle-GAN and Graph Attention Networks. NeurIPS 2019.
		20190920 Human Motion Trajectory Prediction.pdf	Rui

9/27	Topic: **Imitation Learning** Behavior Cloning: Mariusz Bojarski, et al. End to End Learning for Self-Driving Car Generative Adversarial Imitation Learning: Jonathan Ho, et al. Generative Adversarial Imitation Learning Third-Person Imitation Learning: Bradly C. Stadie, et al. Third-Person Imitation Learning	Imitation learning	Lizhen
10/4	Topic: **3D geometric recovery** GeoNet: Qi, Xiaojuan, et al. "Geonet: Geometric neural network for joint depth and surface normal estimation." *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*. 2018. Sfm-learner: Zhou, Tinghui, et al. "Unsupervised learning of depth and ego-motion from video." *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*. 2017. LEGO: Yang, Zhenheng, et al. "Lego: Learning edge with geometry all at once by watching videos." *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*. 2018.	3D geometric learning.pptx	Jiachen
10/11	DaML Study Group		

10/18	Topic: **Multi-task learning** Multi-task learning using uncertainty to weight losses http://openaccess.thecvf.com/content_cvpr_2018/papers/Kendall_Multi-Task_Learning_Using_CVPR_2018_paper.pdf Dynamic task prioritization for multitask learning http://openaccess.thecvf.com/content_ECCV_2018/papers/Michelle_Guo_Focus_on_the_ECCV_2018_paper.pdf End-to-End multi-task learning with attention http://openaccess.thecvf.com/content_CVPR_2019/papers/Liu_End-To-End_Multi-Task_Learning_With_Attention_CVPR_2019_paper.pdf		Fengting
10/25	Topic: **Predicting the movement of traffic agents in first-person videos** • Future Person Localization in First-Person Videos. CVPR 2018. • Long-Term On-Board Prediction of People in Traffic Scenes under Uncertainty. CVPR 2018. • Egocentric Vision-based Future Vehicle Localization for Intelligent Driving Assistance Systems. ICRA 2019.	Predicting the movement of traffic agents in first-person videos.pdf	Rui
11/1	Topic: **Visual Navigation model deal with memory mechanism** • Cognitive Mapping and Planning for Visual navigation • Bayesian Relational Memory for Semantic Visual Navigation • Zero-Shot Visual Imitation	visual navigation	Lizhen
11/8	DaML Study Group		
11/15	CVPR deadline		
11/22			Zihao
11/29	Thanksgiving holiday		
12/6	DaML Study Group		
12/13			Jiachen

Fall 2018

Week/Date	Papers	Presenter

10/5	Learning to Navigate in Complex Environments https://arxiv.org/abs/1611.03673 Learning to Navigate in Cities Without a Map https://arxiv.org/abs/1804.00168	Zihan
10/12		Qian
10/19		Fengting
10/26	Group Normalization. https://arxiv.org/abs/1803.08494	Rui

Spring 2018

Week/Date	Papers	Presenter
1/19	You only look once: Unified, real-time object detection https://arxiv.org/pdf/1506.02640.pdf YOLO9000: better, faster, stronger https://arxiv.org/pdf/1612.08242.pdf . YOLO.pptx	Fengting
1/26	Learning Features by Watching Objects Move http://people.eecs.berkeley.edu/~pathak/unsupervised_video/	Zihan
2/2	Zero-Shot Visual Imitation https://openreview.net/forum?id=BkisuzWRW	Qian
2/9	Focal Loss for Dense Object Detection https://arxiv.org/abs/1708.02002	Dafang
2/16	On the Convergence of Adam and Beyond, Adam.pptx. https://openreview.net/forum?id=ryQu7f-RZ	Fengting
2/23	ECCV deadline	
3/2	ECCV deadline	
3/9	Spring break	
3/16	Learning to Parse Wireframes in Images of Man-Made Environments	Zihan
3/23	Detect-and-Track: Efficient Pose Estimation in Videos https://arxiv.org/abs/1712.09184	Qian
3/30	Fully-Convolutional Siamese Networks for Object Tracking https://arxiv.org/abs/1606.09549	Dafang
4/6	Dynamic Routing Between Capsules, capsule_network.pptx . https://arxiv.org/abs/1710.09829	Fengting

Fall 2017

Week/Date	Papers	Presenter
8/25	Learning to See by Moving https://arxiv.org/abs/1505.01596	Zihan

9/1	Unsupervised CNN for Single View Depth Estimation: Geometry to the Rescue https://arxiv.org/abs/1603.04992	Zihan
9/8	ORB-SLAM: A Versatile and Accurate Monocular SLAM System http://webdiis.unizar.es/~raulmur/orbslam/..ORB_slam	Fengting
9/15	Unsupervised Learning of Depth and Ego-Motion from Video https://people.eecs.berkeley.edu/~tinghuiz/projects/SfMLearner/	Zihan
9/22	Semi-dense visual odometry for a monocular camera https://vision.in.tum.de/_media/spezial/bib/engel2013iccv.pdf	Qian/ Zihan
9/29	LSD-SLAM: Large-Scale Direct Monocular SLAM https://vision.in.tum.de/_media/spezial/bib/engel14eccv.pdf	Qian
10/6	FlowNet: Learning Optical Flow with Convolutional Networks: https://github.com/liruoteng/FlowNet Live Dense Reconstruction with a Single Moving Camera	Zihan
10/13	EVO: A Geometric Approach to Event-Based 6-DOF Parallel Tracking and Mapping in Real Time http://ieeexplore.ieee.org/abstract/document/7797445/ . .EVO_presentation.pptx	Fengting
10/20	Image-to-Image Translation with Conditional Adversarial Networks https://arxiv.org/abs/1611.07004	Xi
10/27	Diret sparse Odometry https://arxiv.org/abs/1607.02565	Qian
11/3	Diret sparse Odometry https://arxiv.org/abs/1607.02565	Qian
11/10	CVPR deadline	
11/17	CVPR deadline	
11/24	Thanksgiving holiday	
12/1	Cancelled	
12/8	What Uncertainties Do We Need in Bayesian Deep Learning for Computer Vision? https://arxiv.org/abs/1703.04977	Zihan
12/15	**DeepVO : Towards Visual Odometry with Deep Learning http://senwang.gitlab.io/DeepVO/** UnDeepVO : Monocular Visual Odometry through Unsupervised Deep Learning http://senwang.gitlab.io/UnDeepVO/, DeepVO&UnDeepVO.pptx	Fengting
12/22	One-shot Imitation Learning https://arxiv.org/abs/1703.07326	Qian