Wang **Zhe**

Google Scholar

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Short Bio

SenseTime Group Limited — *Hong Kong*

Senior Researcher — *Sep. 2017 - PRESENT*

- I am responsible for scene recovery and Semantic HDMap for L-4 Level Autonomous Driving.

SenseTime Group Limited — *Hong Kong*

Computer Vision Researcher (Intern) — *Nov. 2016 - Sep. 2017*

- I worked on medical imaging related projects, including but not limited to diabetic retinopathy, glaucoma and skin cancer.

The Chinese University of Hong Kong — *Hong Kong*

Ph.D in Electronic Engineering — *Sep. 2012 - Aug. 2017*

- My supervisor is Prof. Xiaogang Wang. I am both in Multimedia Lab (mmlab) and Image and Video Processing Lab (IVPLab).

Zhejiang University — *Zhejiang, China*

B.Eng. in Optical Engineering — *Sep. 2008 - July 2012*

Research Interest

Computer Vision, Deep Learning, Autonomous Driving, Medical Imaging

Experience

SenseTime Group Limited — *Hong Kong*

Research Intern — *Nov. 2016 - Sep. 2017*

- Design a deep learning framework - ZoomInNet for diabetic retinopathy detection. Achieved best performance on both EyePacs and Messidor datasets. Worked with Jianping Shi. One paper accepted by MICCAI 2017.
- Prepare and clean up a glaucoma diagnosis dataset and design deep neural networks for diagnosis based on Visual Field report. Worked with Prof. Yu Qiao in SIAT, Shenzhen. One paper accepted by BMC medical imaging.
- Design a joint segmentation and diagnosis network for skin cancer together with my intern Chen Sheng. One paper accepted by ISBI 2018.

Honors & Awards

2017	**1st Place**, DAVIS Challenge on Video Object Segmentation	*Honolulu, Hawaii*
2016	**1st Place**, ImageNet Object Detection Challenge	*Amsterdam, the Netherlands*
2015	**1nd Place**, ImageNet Object Detection from Video Challenge	*Santiago, Chile*
2015	**2nd Place**, ImageNet Object Detection Challenge	*Santiago, Chile*
2014	**2nd Place**, ImageNet Object Detection Challenge	*Zurich*
2012-2016	**Ph.D studentship**, The Chinese University of Hong Kong	*Hong Kong*
2013-2016	**Outstanding Tutor Award**, The Chinese University of Hong Kong	*Hong Kong*

Selected Publications

- Zhanyu Wang, **Zhe Wang**, Guoxiang Qu, Fei Li, Ye Yuan, Dennis SC Lam, Xiulan Zhang, Yu Qiao, "Intelligent Glaucoma Diagnosis via Active Learning and Adversarial Data Augmentation", IEEE International Symposium on Biomedical Imaging (ISBI), 2019.
- Kui Xu, **Zhe Wang**, Jianping Shi, Hongsheng Li, Qiangfeng Cliff Zhang, "A^2-Net: Molecular Structure Estimation from Cryo-EM Density Volumes", The Thirty-Third AAAI Conference on Artificial Intelligence (AAAI-19). (spotlight)
- Fei Li, **Zhe Wang**, Guoxiang Qu, Diping Song, Ye Yuan, Yang Xu, Kai Gao, Guangwei Luo, Zegu Xiao, Dennis SC Lam, Hua Zhong, Yu Qiao, Xiulan Zhang "Automatic differentiation of Glaucoma visual field from non-glaucoma visual filed using deep convolutional neural network", BMC medical imaging.
- G. Qu*, W. Zhang*, **Z. Wang***, X. Dai, J. Shi, J. He, F. Lei, X. Zhang, Y. Qiao, "StripNet: Towards Topology Consistent Strip Structure Segmentation", ACM Multimedia Conference (ACM-MM), 2018. (*equal contribution)

- C. Yang, **Z. Wang**, X. Zhu, C. Huang, J. Shi, D. Lin, "Pose Guided Human Video Generation", European Conference on Computer Vision (ECCV), 2018.
- S. Chen, **Z. Wang**, J. Shi, B. Liu, N. Yu, "A Multi-task Framework with Feature Passing Module for Skin Lesion Classification and Segmentation", IEEE International Symposium on Biomedical Imaging (ISBI), 2018.
- X. Li, Y. Qi, **Z. Wang**, K. Chen, Z. Liu, J. Shi, P. Luo, C. Change Loy, X. Tang, "Video Object Segmentation with Re-identification", The 2017 DAVIS Challenge on Video Object Segmentation - CVPR Workshops (1st place), 2017.
- **Zhe Wang**, Yanxin Yin, Jianping Shi, Wei Fang, Hongsheng Li, Xiaogang Wang, "Zoom-in-Net: Deep Mining Lesions for Diabetic Retinopathy Detection", International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), 2017.
- K. Kang, J. Yan, X. Zeng, B. Yang, T. Xiao, C. Zhang, **Z. Wang**, R. Wang, X. Wang, W. Ouyang. "T-CNN: Tubelets with Convolutional Neural Networks for Object Detection from Videos", IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2017.
- W. Ouyang, X. Zeng, X. Wang, S. Qiu, P. Luo, Y. Tian, H. Li, S. Yang, **Zhe Wang**, et al. "DeepID-Net: Object Detection with Deformable Part Based Convolutional Neural Networks", IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2017.
- X. Zeng, W. Ouyang, J. Yan, H. Li, T. Xiao, K. Wang, Y. Liu, Y. Zhou, B. Yang, **Zhe Wang**, H. Zhou, X. Wang. "Crafting GBD-Net for Object Detection", IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2017.
- **Zhe Wang**, H. Li, W. Ouyang, X. Wang. "Learnable Histogram: Statistical Context Features for Deep Neural Networks", European Conference on Computer Vision (ECCV), 2016.
- **Zhe Wang**, H. Li, Q. Zhang, J. Yuan, X. Wang. "Magnetic Resonance Fingerprinting with Compressed Sensing and Distance Metric Learning", Journal of Neurocomputing, 2016.
- W. Ouyang, X. Wang, X. Zeng, S. Qiu, P. Luo, Y. Tian, H. Li, S. Yang, **Zhe Wang**, C. Loy, X. Tang. "DeepID-Net: Deformable Deep Convolutional Neural Networks for Object Detection", In Proc. CVPR 2015
- **Zhe Wang**, Q. Zhang, J. Yuan, X. Wang. "MRF denoising with compressed sensing and adaptive filtering", IEEE 11th International Symposium on Biomedical Imaging (ISBI), 2014.

Professional Services

- **Journal Reviewer:** Medical Image Analysis, IEEE Transactions on Biomedical Engineering, IEEE Transactions on Circuits and Systems for Video Technology
- **Conference Reviewer:** MICCAI 2018, MICCAI 2019, VCIP 2017

Teaching Experience

- **ENGG5202** Pattern Recognition
- **ENGG1110** Problem Solving by Programming
- **BMEG4320** Biomedical Imaging Applications
- **ELEG2202** Circuit and Device
- **ENGG1110B** Basic Circuit Theory