Shen Zheng

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Education

Carnegie Mellon University Aug. 2022 — Dec. 2023
Master of Science in Computer Vision (MSCV) *Pittsburgh, PA*

Wenzhou-Kean University Sep. 2017 — Jun. 2021
B.A. in Mathematical Sciences, GPA 3.800/4.000, Major GPA: 3.944/4.000 *Wenzhou, China*

Publications

- **Shen Zheng**, Jinqian Pan, Changjie Lu, and Gaurav Gupta (2022), "PointNorm: Dual Normalization is All You Need for Point Cloud Analysis". Under Review at **ICRA**.
- Changjie Lu, **Shen Zheng**, Zirui Wang, Omar Dib, and Gaurav Gupta (2022), "AS-IntroVAE: Adversarial Similarity Distance Makes Robust IntroVAE". Accepted by **ACML**.
- Changjie Lu, **Shen Zheng**, and Gaurav Gupta (2022), "Unsupervised Domain Adaptation for Cardiac Segmentation: Towards Structure Mutual Information Maximization". **CVPR**.
- **Shen Zheng** and Gaurav Gupta (2022), "Semantic-Guided Zero-Shot Learning for Low-Light Image/Video Enhancement". **WACV**.
- **Shen Zheng**, Changjie Lu, Yuxiong Wu, and Gaurav Gupta (2022), "SAPNet: Segmentation-Aware Progressive Network for Perceptual Contrastive Deraining". **WACV**.
- **Shen Zheng**, Yuxiong Wu, Shiyu Jiang, Changjie Lu, and Gaurav Gupta (2021), "Deblur-YOLO: Real-Time Object Detection with Efficient Blind Motion Deblurring", **IJCNN** (Oral).
- **Shen Zheng**, Liwei Wang, and Gaurav Gupta (2020), "Efficient Ensemble Sparse Convolutional Neural Networks with Dynamic Batch Size", **CVIP** (Oral).

Experience

Wenzhou-Kean University Dec. 2020 – July. 2022
Research Assistant — Advisor: Dr. Gaurav Gupta *Wenzhou, China*

- Image: Restoration; Enhancement; Generation; Detection; Segmentation; Domain Adaptation.
- Point Cloud: Shape Classification; Part Segmentation; Semantic Segmentation.

Momenta (An Autonomous Driving Company) Sep. 2021 – Feb. 2022
Computer Vision Engineer — Director: Dr. Wangjiang Zhu *Suzhou, China*

- Responsible for long-tailed data augmentation, data auto-labeling and cleaning, and model evaluation.
- Implemented CycleGAN to convert traffic light bulbs from left arrow to round & leftUturn arrow.
- Constructed a traffic light auto-label model using quantized VoVNet-57, filtering 14,618 incorrect annotations from 1,160,513 labeled frames.
- Increased the Acc. for leftUturn traffic light from 78.41% to 87.27%, and mAP from 93.01% to 94.80%.

University of Notre Dame Jul. 2021 – Aug. 2021
Research Assistant — Advisor: Dr. Chaoli Wang *Remote*

- Constructed a fully convolutional neural network with Siren activation function, Greene's bisection method, and Jacobian eigenvalue to render isosurfaces with image resolution, viewpoints and isovalue.

Miscellaneous

Reviewers: CVIP 2021, CVIP 2022, AAAI 2022, WACV 2023, IEEE TNNLS
Programming Languages: Python, R, Java, C++, Matlab, Mathematica, Shell, LaTeX, Markdown
Frameworks & Platforms: Pytorch, TensorFlow, Keras, Ubuntu, Docker, Git, ONNX, CUDA
Libraries: Scikit-Learn, SciPy, NumPy, OpenCV, Matplotlib, Pandas