WEIZHI LI

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EDUCATION

Doctor of Philosophy in Computer Engineering   September 2018 - Present
Arizona State University, Tempe, AZ   GPA: 4.0/4.33
Advisor: Professor Visar Berisha
Research interests: Model robustness and label-efficient learning

Master of Science in Electrical Engineering   September 2015 - December 2017
Texas A&M University, College Station, TX   GPA: 3.7/4.0
Advisor: Professor Jim Ji
Research interests: Deep learning in histological image segmentation

Bachelor of Science in Electronic Information Science and Technology   September 2011 - June 2015
Shandong University, P.R. China   Major GPA: 85/100
Research interests: Image processing in image dehazing and filtering

TECHNICAL SKILLS

I have been doing **experiment design** for research projects since the junior year of college. Driven by the trend of deep learning research, I began using **Python** and **Tensorflow** during my master study, and changed to using **Pytorch** at the beginning of my Ph.D study. For the majority time of recent years, I developed machine learning algorithms with **Python** and **Pytorch**.

PROJECTS

Finding the homology of decision boundaries with active learning   January 2020 - Present
Outcomes: One paper submitted to NeurIPS'20. **Python and Matlab are used.**

· For the first time, we proposed to find the homology of decision boundaries with active learning. Furthermore, we analyzed the complexity of the proposed learning algorithm in the framework of the probably approximately correct learning.

Structural label smoothing for deep model regularization   September 2018 - December 2019
Outcomes: One paper accepted to AISTATS'20 [Paper link]. **Pytorch and Python are used.**

· By acquiring the meta-knowledge from the data, we modified the original label smoothing and developed a novel structural label smoothing. This new regularization method, experimented in diversed classification tasks such as CIFAR-10, CIFAR-100 and SVHN, outperforms the original label smoothing by 2% accuracy.

Multi-view 3D object detection network for autonomous driving   November 2017 - December 2017
Outcomes: Reproduced the results of a CVPR'17 paper [Project link]. **Tensorflow and Python are used.**

· I processed the raw LIDAR point cloud and prepared it for the model training. I built aN object detection deep network called MV3D with Tensorflow. This is a deep network composed of two subnetworks to receive the LIDAR and RGB image data.

Noise-tolerant deep Learning for image segmentation   January 2016 - December 2017
Outcomes: one paper accepted to ICIP'17 [Paper link]. **Tensorflow and Python are used.**

· We innovatively developed a deep network resistant to label-noise for histological image segmentation. The proposed network was applied to identify the Duchenne muscular dystrophy in histological images and achieved the clinicians satisfied segmentation results.

PUBLICATIONS

W. Li, G. Dasarathy, K. Ramamurthy, V. Berisha, "*Finding the Homology of Decision Boundaries with Active Learning*", submitted to NeurIPS'20

W. Li, G. Dasarathy, V. Berisha, "*Regularization via Structural Label Smoothing*", AISTATS'20

C. Tsai, **W. Li**, X. Qian, Y. Lin, "*Image Co-saliency Detection and Co-segmentation via Progressive Joint Optimization*", IEEE Transactions on Image Processing (TIP), 28(1), 56-71.

W. Li, X. Qian, and J. Ji, "*Noise-tolerant Deep Learning for Histopathological Image Segmentation*", In Proceedings of IEEE International Conference on Image Processing (ICIP), 2017.

HONORS

Graduate Travel Award from Arizona State University	2020
Engineering Graduate Fellowship from Arizona State University	2018, 2019
Winner of the Research Poster Competition in SWE region C conference	Mar 2017
Graduate Merit Scholarship from Texas A&M University	Aug 2016
Shandong University 3rd-class Scholarship	Oct 2014

ACTIVITIES

Graduate Fulton Ambassadors	Jan 2020 - Present