Yao Qin

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Research Interests

My research interests are in **Deep Learning** and **Computer Vision**. I am especially interested in applying deep learning to deal with problems in computer vision. Recently, I am doing research on semantic segmentation for 2D images and 3D biomedical images.

Education

University of California, San Diego *2015 - Present*
Ph.D student, Department of Computer Science and Engineering

University of California, San Diego *2015 - 2017*
Master of Science, Department of Computer Science and Engineering

Dalian University of Technology *2011 - 2015*
Bachelor of Science, Department of Communication Engineering

Publications

Y. Qin, S. Ancha, J. Nanavati, G. Cottrell, A. Criminisi and A. Nori. Autofocus Neural Networks for Semantic Segmentation. Submitted to *Conference on Computer Vision and Pattern Recognition* (**CVPR**), 2018

Y. Qin*, M. Feng*, H. Lu and G. Cottrell. Hierarchical Cellular Automata for Visual Saliency. Accepted by *International Journal of Computer Vision* (**IJCV**), 2017

Y. Qin, D. Song, H. Chen, W. Cheng, G. Jiang and G. Cottrell. A Dual- Stage Attention-Based Recurrent Neural Network for Time Series Prediction. *International Joint Conference on Artificial Intelligence* (**IJCAI**), 2017

Y. Qin, H. Lu, Y. Xu and H. Wang. Saliency Detection via Cellular Automata. In *Conference on Computer Vision and Pattern Recognition* (**CVPR**), 2015

Q. Pan, **Y. Qin**, Y. Xu, M. Tong and M. He. Opinion Evolution in Open Community. *International Journal of Modern Physics C, 1750003*, 2016.

Research Experience

Graduate Student Researcher *2015 - Present*
Gary's Unbelievable Research Unit, UC San Diego, La Jolla, CA
– Focused on building convolutional neural networks to improve the performance for semantic segmentation.
– Using attention models for image classification, semantic segmentation and music generation.

Research Intern *2017. Jun - 2017. Sep*
InnerEye Group, Microsoft Research, Cambridge, UK
– Proposed Autofocus Neural Networks for 3D semantic segmentation, especially for biomedical images.

Research Intern *2016. Jun - 2016. Sep*
Data Science, NEC Lab, Princeton, NJ
– Proposed a dual-stage attention based recurrent neural network for time series prediction.
– Built a NASDAQ100 stock dataset for the further research of long-range time series prediction.

Research Assistant *2014 - 2015*
Intelligent Image Analysis and Understanding Lab, DLUT, Dalian, China
– Accomplished the research on the saliency detection and proposed an efficient algorithm based on Cellular Automata to detect the salient objects in the images.
– Combining Cellular Automata with Bayesian theory to integrate multiple saliency maps. Experiments on public datasets demonstrate that the proposed method outperforms state-of-the-arts.

Research Assistant *2012 - 2014*
Supported by National College Students' Innovative Training Program of China.
– Accomplished the research on the propagation dynamics and opinion evolution.

Skills

Expert on C/C++, Python, Matlab, Caffe, Tensorflow and Pytorch.
Had solid knowledge for deep learning, Mathematics, computer vision and image processing.

Contest Experience

The 1st Prize in "Challenge Cup" Science and Technology Competition *Provincial, 2015*
The 1st Prize in Undergraduate Mathematical Contest in Modeling *Provincial, 2014*
Honorable Mention in Interdisciplinary Contest in Modeling *International, 2014, 2013*
The 1st Prize in Undergraduate Mathematical Contest in Modeling *National, 2013*
The 1st Prize in 'Undergraduate Mathematical Contest in Modeling *Provincial, 2013, 2012*
The 2nd Prize in Contemporary Undergraduate Mathematical Contest *National, 2012*

Awards

NIPS Travel Award *NIPS, 2016*
NIPS Women in Machine Learning Travel Award *NIPS WiML, 2016*
Departmental Fellowship *UC San Diego, 2015*
National Scholarship *Department of Education of China, 2013, 2012*
Outstanding Undergraduate Student Award *Liaoning Province, 2015*
HIWIN Elite Scholarship *DLUT, 2014*