

Zijin GU

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EDUCATION

Cornell University

Ph.D, Electrical and Computer Engineering

Ithaca, U.S.A

Sept. 2019 - Present

Zhejiang University

B.Eng., Electrical Engineering

Hangzhou, China

Sept. 2015 - Jun. 2019

Advanced Honor Class of Engineering Education, Chu Kochen Honors College

University of Cambridge

Exceptional Achievement for Entrepreneurship Management and Capital Markets

Cambridge, U.K

Aug. 2017

RRESEARCH EXPERIENCE

Cornell University

Research Assistant. Advisor Prof. Mert Sabuncu & Prof. Amy Kuceyeski

Ithaca, U.S.A

Sept. 2019 - Present

- Developed deep neural networks to predict brain functional connectivity(FC) from structural connectivity(SC).
- Studied the individual identifiability by SC-FC relationship, predicted human sex difference and cognitive scores.

Zhejiang University

Undergraduate Research Assistant. Advisor: Prof. Yong Ding

Hangzhou, China

Oct. 2018 - May. 2019

- Fine-tuned the last layer of CNN models (Caffe-net and GoogLeNet) with six quality levels and extracted quality-aware features. Implemented a feature consolidation process by a weighted fusion procedure considering the image saliency information and multi-scale disparity maps.
- Built framework and conducted experiments in different 3D image databases, obtained optimal results and did robustness and stability analysis.

University of California, Davis

Research Intern. Advisor: Prof. Soheil Ghiasi

Davis, U.S.A

Jul. 2018 - Aug. 2018

- Created typical tissue models in JSON files, built the whole simulation environment in Python and conducted simulations in Monte Carlo eXtreme (MCX).
- Investigated several design parameters: frequency of the near-infrared spectroscopy waves, penetration depth of photons, distance between light source and detectors. Adopted two indexes: power transmission ratio and signal to noise ratio, for evaluation. Discovered the possible light source placements with two bladder models (empty and full) and conducted feasibility test. Furthered the research to obese people.

Zhejiang University

Undergraduate Research Assistant. Advisor: Prof. Yong Ding

Hangzhou, China

Oct. 2017 - Oct. 2018

- Guided by human visual system, creatively adopted different JND models considering information perceived in monocular (by only one view), binocular (by both views) and depth (by disparity) to weight the extracted multi-scale (log-Gabor filter) texture (LTrPs), edge (Sobel) and cyclopean (SSIM-based) information.
- Established framework, tested the method in LIVE 3D I and II, IRCCyN IVC and MCL 3D databases, conducted cross-database experiments and analyzed the results.

PUBLICATIONS

- **Zijin Gu**, Yong Ding, Ruizhe Deng, Xiaodong Chen, Andrey S. Krylov. "Multiple Just-Noticeable-Difference Based No-Reference Stereoscopic Image Quality Assessment", *Appl. Opt.* 58, 340-352 (2019).
- Xiaogang Xu, Bufan Shi, **Zijin Gu**, Ruizhe Deng, Xiaodong Chen, Andrey S. Krylov, Yong Ding. "3D No-Reference Image Quality Assessment via Transfer Learning and Saliency-Guided Feature Consolidation", *IEEE Access*, vol. 7, pp. 85286-85297, 2019.

AWARDS & ACHIEVEMENTS

- Outstanding graduate of Zhejiang University 2019
- Excellent graduation thesis of Zhejiang University 2019
- Meritorious Winner in COMAP's Mathematical Contest in Modeling (MCM) 2017
- 1st Scholarship for Excellence in Research and Innovation of Zhejiang University 2017
- Excellent Student Awards of Zhejiang University 2016 & 2017
- Zhejiang Provincial Government Scholarship (top 3%) 2016
- 1st Scholarship for Outstanding Merits & Students of Zhejiang University (top 3%) 2016

SKILLS

- Python, Matlab, C/C++, Pytorch, Tensorflow, Caffe