Peter (Zhihang) Ren

Contact Information

Email : peter.zhren@berkeley.edu | Google scholar
Homepage : albuspeter.github.io

Education

University of California, Berkeley Aug. 2019 - Present
Ph.D. in Vision Science. Advisor : Stella X. Yu,David Whitney. GPA : 3.955/4.0
Research in Computer Vision, Medical Imaging, and Vision Science

University of California, San Diego Aug. 2017 - June 2019
M.S. in Electrical and Computer Engineering. Advisor : Nuno Vasconcelos, Bhaskar D. Rao
Research in Computer Vision, and Medical Imaging. GPA : 3.77/4.0

University of Glasgow Sep. 2013 - June 2017
B.Eng. in Electronic and Electrical Engineering

University of Electronic Science and Technology of China Sep. 2013 - June 2017
B.S. in Electronic Engineering. Advisor : Shuaicheng Liu
Research in Image and Video Processing. GPA : 3.90/4.0, Rank :1/139

Publications

1. Controllable Medical Image Generation via GAN
Zhihang Ren, Stella X. Yu, David Whitney
Journal of Perceptual Imaging, 2021 (in revision)
2. Improve Image-based Skin Cancer Diagnosis with Generative Self-Supervised Learning
Zhihang Ren, Yunhui Guo, Stella X. Yu, David Whitney
IEEE/ACM Conference on Connected Health Applications, Systems, and Engineering Technologies (CHASE), 2021 (in press)
3. Serial Dependence in the Perceptual Judgments of Radiologists
Mauro Manassi*, Cristina Ghirardo*, Teresa Canas-Bajo*, **Zhihang Ren**, William Prinzmetal, David Whitney
Cognitive Research : Principles and Implications, 2021
4. Controllable medical image generation via generative adversarial networks
Zhihang Ren, Stella X. Yu, David Whitney
Human Vision and Electronic Imaging (HVEI) **Oral**, 2021
5. Coding Trajectory: Enable Video Coding for Video Denoising
Zhihang Ren, Peng Dai, Shuaicheng Liu, Shuyuan Zhu, Bing Zeng
IEEE International Conference on Image Processing (ICIP), 2018
6. MeshFlow Video Denoising
Zhihang Ren, Jiajia Li, Shuaicheng Liu, Bing Zeng
IEEE International Conference on Image Processing (ICIP), 2017
7. Shape Recovery of Endoscopic Videos by Shape from Shading using Mesh Regularization
Zhihang Ren, Tong He, Lingbing Peng, Shuaicheng Liu, Shuyuan Zhu, Bing Zeng
International Conference on Image and Graphics (ICIG), 2017
8. Signal analysis of sound produced by collision of steel balls
Lei Wang, Hao Wu, Jikun Jin, **Zhihang Ren**, Hongrui Zhang, Baohua Teng
Physics Experimentation Vol.35 No.12, 1-4, Dec. 2015

Teaching & Services

Graduate Student Instructor at UC Berkeley Fall 2019, Spring 2021
Machine Learning (CS189/289) : Designed novel homework and exam questions on CCA algorithm, classic computer vision tasks, etc. , and led discussion sessions. 400 students are enrolled in the class.

Perception (Psych C126) : Led discussion sessions and office hours to help 60 students understand basic human visual system and perception mechanisms.

Teaching Assistant at UC San Diego Fall 2018
Statistical Learning (ECE271A) : Hold office hours to help students understand the concepts in statistical learning. 200 students are enrolled in the class.

Teaching Assistant at UESTC Fall 2015, 2016 Spring 2017
Introductory Programming : Hold office hours to help students understand the concepts in C/C++ programming. Led lab session. 300 students are enrolled in the class.

Microelectronic Systems : Prepared and led lab session. Helped students on their project design and implementation. 300 students are enrolled in the class.

Mentoring 1 UC Berkeley undergraduate student on her research project.
Program Committee Chair : Bay Area Vision Research Day (BAVRD), Online, 2020

Awards

National Scholarship (top 1.5%)	2013-2014, 2014-2015
People's First Prize Scholarship (top 5%)	2015-2016
Academic Excellent Scholarship (top 5%)	2013-2014, 2014-2015

Skills

Programming languages : Python, C/C++, MATLAB, R
Deep learning/Robotics framework : PyTorch, Tensorflow, Keras
Softwares : Photoshop, Premiere, Illustrator
Languages : English, Chinese.

Activities & Talks

1. Sequentially dependent errors generalize across naturalistic mammogram stimuli
   The Annual Meeting of Vision Science Society (Virtual-VSS), **Oral**, May 21-26, 2021
2. A General Model for Medical Stimuli Synthesis
   The Annual Meeting of Vision Science Society (Virtual-VSS), May 21-26, 2021
3. A Generative Model for Tumor Stimuli Synthesis
   The Annual Meeting of Vision Science Society (Virtual-VSS), May 17, 2020
4. Vice President of Finance, Vision Science Student Government 2020-2021

Hobbies

Hiking, Photography, Badminton, and Tennis