Zhihang Ren

peter.zhren@berkeley.edu | +1 (858) 349-4058
albuspeter.github.io | linkedin.com/in/zhihang-ren-831a15146

Education

University of California, Berkeley Aug. 2019 - May 2024
Ph.D. in Vision Science | Advisors: Stella X. Yu,David Whitney ***GPA: 3.98/4.0***
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 | Advisors: Nuno Vasconcelos, Bhaskar D. Rao ***GPA: 3.77/4.0***
Research in Computer Vision, and Medical Imaging

Experience

Google LLC. Sept. 2024 - Present
Software Engineer *Python, Optimization, Machine Learning, LLM*

- Develop core ML models that powering App Ads.
- Improve scalable ML training infrastructure.

TikTok Inc. July. 2024 - Sept. 2024
Machine Learning Engineer *Python, Pytorch, Multi Modality, LLM*

- Build multi-modal harmful content detection systems for user posts auto-review involving images and videos.
- Leverage Large-Language-Models (LLM) to boost the performance of the auto-review system.

Meta Reality Labs May. 2022 - Dec.2022
Research Scientist Intern *Python, Pytorch, GenAI, GAN*

- Contributed to Meta's Generative AI project focused on facial expression editing via VQGAN.
- Proposed a new style transfer task to generate novel style images by modeling popular styles on the Internet.
- Studied a generative method to solve the proposed task by disentangling, contrastive learning, and adversarial learning.

Projects

Serial Dependence Study in Diagnostics Dec. 2019 - Ongoing
Data analysis of diagnostic data *Python, Pytorch, Data Science, Machine Learning, GenAI, GAN*

- Investigating the impact of visual serial dependence, a human visual effect, on diagnostic performance.
- Building generative AI tools for researchers to controllably produce authentic medical image stimuli.
- Proposing, designing, and verifying approaches to alleviate serial dependence influence in real diagnostic scenarios.

Skin Cancer Classification via Generative Self-Supervised Learning Feb. 2021 - July. 2021
Improve the reliability of the classification boundaries *Python, Pytorch, Machine Learning, GenAI, GAN*

- Proposed to utilize generative models to enrich the rare case data, increasing the robustness of classification.
- Boosted the accuracy of self-supervised skin cancer image classification by 11.17% on BCN20000.

Selected Publication

- Region-Based Emotion Recognition via Superpixel Feature Pooling
  Zhihang Ren, Yifan Wang, Tsung-Wei Ke, Yunhui Guo, Stella X. Yu, David Whitney
  IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR) Workshop, 2024
- SkinCON: Towards consensus for the uncertainty of skin cancer sub-typing through distribution regularized adaptive predictive sets (DRAPS)
  Zhihang Ren, Yunqi Li, Xinyu Li, Xinrong Xie, Erik P. Duhaime, Kathy Fang, Tapabrata Chakraborty, Yunhui Guo, Stella X. Yu, David Whitney
  the 27th International Conference on Medical Image Computing and Computer Assisted Intervention, MICCAI 2024
- VEATIC: Video-based Emotion and Affect Tracking in Context Dataset
  Zhihang Ren*, Jefferson Ortega*, Yifan Wang*, Zhimin Chen, Yunhui Guo, Stella X. Yu, David Whitney
  IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2024
- Controllable Medical Image Generation via GAN
  Zhihang Ren, Stella X. Yu, David Whitney
  Journal of Perceptual Imaging, 2022