

Zunzhi You

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EDUCATION

Sun Yat-sen University

B.E. in Software Engineering, School of Computer Science and Engineering

Overall Average: 90.25%, Ranking: 13/174

Guangzhou, China

Aug. 2017 – June 2021

National Chiao Tung University

Exchange Student in the Department of Computer Science

Overall Average: 92.5%

Hsinchu, Taiwan

Sep. 2019 – Jan. 2020

PUBLICATIONS AND TRANSCRIPTS

Zunzhi You, Yi-Hsuan Tsai, Wei-Chen Chiu, Guanbin Li. Towards Interpretable Deep Networks for Monocular Depth Estimation. To appear in *IEEE International Conference on Computer Vision (ICCV)*, 2021. [\[Link\]](#)

Chung-Sheng Lai, [Zunzhi You](#), Ching-Chun Huang, Yi-Hsuan Tsai, Wei-Chen Chiu. Colorization of Depth Map via Disentanglement. In *European Conference on Computer Vision (ECCV)*, 2020. [\[Link\]](#)

Ricong Huang, Haofeng Li, [Zunzhi You](#), Weikai Chen, Yizhou Yu, Guanbin Li. SENSE: Self-Evolving learning for Self-Supervised Monocular Depth Estimation. *In preparation*.

RESEARCH EXPERIENCE

Interpretability of Deep Networks for Monocular Depth Estimation

Apr. 2020 – Mar. 2021

Advisors: Prof. [Wei-Chen Chiu](#), Dr. [Yi-Hsuan Tsai](#), Prof. [Guanbin Li](#)

- Observed and that some neuron units in deep networks for Monocular Depth Estimation (MDE) are selective to certain ranges of depth, and selective units are more meaningful to the estimation performance
- Quantified the interpretability of deep networks for MDE based on the depth selectivity of their internal units
- Proposed a novel method to train interpretable MDE deep networks by assigning a depth range for each unit to select
- Conducted experiments to show that the proposed method significantly improved the interpretability without compromising accuracy, and further validated its reliability and applicability
- First authored the publication: Towards Interpretable Deep Networks for Monocular Depth Estimation, ICCV, 2021

Self-evolving Learning for Self-supervised Monocular Depth Estimation

Jan. 2021 – Mar. 2021

Advisors: Prof. [Guanbin Li](#)

- Reviewed the existing papers on self-supervised monocular depth estimation.
- Provided insights from fully-supervised MDE and proposed to combine self-supervised MDE with fully-supervised MDE.
- Devised the experiments to show the effectiveness of the proposed method
- Co-authored the manuscript.

Depth Colorization and its Applications

Sep. 2019 – Mar. 2020

Advisors: Prof. [Wei-Chen Chiu](#), Dr. [Yi-Hsuan Tsai](#)

- Demonstrated the applicability of the a novel depth colorization model in maintaining the performance of RGB-based computer vision models, with significant improvement in comparison to several baselines
- Proposed methods to utilize the depth colorization model to help depth estimation models learn from synthetic data in a domain adaptation view
- Second-authored the publication: Colorization of Depth Map via Disentanglement, ECCV, 2020

Person Re-Identification and Unsupervised Domain Adaptation

Apr. 2019 – Aug. 2019

Advisor: Prof. [Wei-Shi Zheng](#)

- Investigated the existing works in person re-identification and unsupervised domain adaptation based on adversarial learning
- Proposed a novel algorithm based on GANs to disentangles representations between domains and person identities

PROJECTS

Human Hand Recognition and Unsupervised Segmentation [\[Link\]](#)

- Trained an SVM classifier to recognize human hands and achieved an accuracy of 96.3% using grid search for hyperparameters
- Implemented kernel k-means and spectral clustering with plain NumPy to segment human hands without labels

CNNs for Chinese Sentence Classification [\[Link\]](#)

- Implemented Convolutional Neural Networks for Chinese sentence classification
- Empirically compared four variations: 1) baseline; 2) pretrained Word2Vec embedding; 3) pretrained Word2Vec embedding with finetuning; 4) Multichannel pretrained Word2Vec embedding

YOLOv2 Reimplementation [\[Link\]](#)

- Reimplemented the object detection model YOLOv2 with PyTorch so as to make the model more readable than existing implementations

SELECTED AWARDS

Outstanding Graduate of Sun Yat-sen University (16/477).	2021
First-class Scholarship for Excellent Students of Sun Yat-sen University (top 5%, three times).	2017-2019
Honorable Mention, COMAP Mathematical Contest in Modeling.	2019
Third Prize, Asia and Pacific Mathematical Contest in Modeling.	2018

TECHNICAL SKILLS

Languages: Python, C, C++, Java, MATLAB, SQL

Frameworks: PyTorch, TensorFlow

Developer Tools: PyCharm, Git, VS Code, IntelliJ

Libraries: pandas, NumPy, Matplotlib