Zunzhi You

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Education

Sun Yat-sen University Guangzhou, China
B.E. in Software Engineering, School of Computer Science and Engineering *Aug. 2017 – June 2021*
Overall Average: 90.25%, Ranking: 13/174

National Chiao Tung University Hsinchu, Taiwan
Exchange Student in the Department of Computer Science *Sep. 2019 – Jan. 2020*
Overall Average: 92.5%

Publications and Transcripts

Zunzhi You, Yi-Hsuan Tsai, Wei-Chen Chiu, Guanbin Li. Towards Interpretable Deep Networks for Monocular Depth Estimation. 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.

Research Highlights

Interpretability of DNNs for Monocular Depth Estimation *Apr. 2020 – Mar. 2021*
Advisors: Prof. Wei-Chen Chiu, Dr. Yi-Hsuan Tsai, Prof. Guanbin Li

- Quantified and enhanced the interpretability of DNNs for monocular depth estimation
- Observed some neural units are selective to certain ranges of depth based on the qualitative and quantitative bahaviour of each unit
- Identified that selective units are more meaningful to the estimation performance by ablating units successively in different orders
- Proposed to assign a depth range for each unit to select to tackle issues caused by batch-wise optimisation, resulting more interpretable and accurate DNNs for monocular depth estimation
- Validated the proposed method's reliability and applicability, e.g. providing cues to explain model's mistakes

Depth Colorization and its Applications *Sep. 2019 – Mar. 2020*
Advisors: Prof. Wei-Chen Chiu, Dr. Yi-Hsuan Tsai

- Verified the applicability of our proposed depth colorization model
- Defined a metric of consistency upon the prediction difference of RGB-based vision models to address the problem of unavailable ground truth
- Conducted experiments on two datasets with an object detection model YOLOv3, showing our method was able to maintain vision model's performance in ill-lighted situations

Selected Projects

Human Hand Recognition and Unsupervised Segmentation [Link]

- Trained an SVM classifier for human hands and achieved 96.3% accuracy with grid search for hyperparameters
- Implemented kernel k-means and spectral clustering with plain NumPy to segment hands unsupervisedly

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

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*