Xianhang Li

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Education

University of Central Florida — Orlando, FL
M.Sc in Computer Science — *Aug. 2019 – Present*

Beijing University of Posts and Telecommunications — Beijing, China
B.E. in Telecommunications Engineering and Management — *Sep. 2014 – June 2018*

Research Interest

I am a second-year M.Sc. student in computer science at UCF. My primary research interest is on computer vision and deep learning. My recent works mainly focus on action recognition, video classification and video synthesis.

Publication

SmallBigNet: Integrating Core and Contextual Views for Video Classification(CVPR2020)
Xianhang Li, Yali Wang, Zhipeng Zhou, Yu Qiao
We study how to learn video representation without the temporal convolution, which usually results in a limited view. We propose a concise and novel SmallBig network, with the cooperation of small and big views that can provide the small view branch with the most activated video features from a broader 3D receptive field. Via aggregating such big-view contexts, the small view branch can learn more robust and discriminative spatio-temporal representations for video classification. Our SmallBig network outperforms a number of recent state-of-the-art approaches.

Experience

Graduate Research Assistant — May 2020 – Present
Center for Research in Computer Vision(CRCV), University of Central Florida — *Orlando, FL*

- **Cross-View Video Synthesis:** we aim at exploring pose to solve this challenging problem and propose a creative pose-guided recurrent approach to generate cross-view video. One paper has been submitted to **CVPR2021**!

Visiting Student — October. 2018 – Present
MMLab, SIAT — *Shenzhen, China*

- **Video Representation:** we aim at exploring a preferable balance between efficiency and performance for video representation. We proposed a general and efficient convolution operation which performs on sub-dimensions of the video tensor. One paper has been submitted to **ICLR2021**!
- **Video Classification:** we proposed an novel module to boost performance of 2D CNNs in video classification task without increasing model size. One paper has been published on **CVPR2020**!

Research Assistant — June 2018 – October 2018
Queen Marry University of London — *London, UK*

- Developed a full-stack web application to store and analyze data from connected vehicle systems based on Flask.
- Assembled a Raspberry Automatic Guided Vehicle to uploading video stream and sensor data to the web sever.

Selected Course Projects

Single Video Generation | *Python, Pytorch, ffmpeg* — UCF, January 2020 – May 2020

- Developed a new training framework named Temporal Segment Generative Network, using the condition of each timestamp as guidance to generate motion-related frame.
- Demonstrated this idea on the scene-related dataset UCF101 and Something-something, both show realistic results.

Chinese Characters OCR Based on CNN | *Python, Caffe, Opencv, PIL* — BUPT, January 2018 – June 2018

- Created a new dataset which contains 60000 Chinese characters by using PIL library.
- Developed the post-processing based on opencv and a novel models that achieved 98% accuracy on the test set to complete the OCR system.

Technical Skills

Languages: Python, Java, C
Frameworks: Pytorch, Tensorflow, Caffe, React, Flask
Developer Tools: Git, Google Cloud Platform, VS Code, PyCharm, IntelliJ, Eclipse
Libraries: pandas, NumPy, Matplotlib