You-Feng (Arthur) Wu

A techie initiator, a problem hacker and a great team player.

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Objective

I am a research scientist in Taiwan. My research goal is to achieve visual intelligence for real-world applications and study advanced topics in machine learning and computer vision. Currently, I am developing gesture recognition with mmWave frequency modulated continuous wave (FMCW) radar, which adopts the range and the velocity estimated from the raw data, such as the time-frequency spectrogram, micro-doppler spectrogram, or range-Doppler image (RDI). Meanwhile, this topic also involve few-shot learning, long-tailed or rapid gesture recognition task, even sub-actions exploration.

Experience

KaiKuTeK Inc.   **Feb. 2020 – Present**
Machine Learning engineer   *Taipei, Taiwan*

- **Rapid gesture recognition** - Robust Impulse-like event localization in the presence of temporally misaligned labels.
- **Long-Tailed gesture recognition** - Alleviate the category quantity distribution imbalance problem for each category.
- **Temporal coherency** - Explicitly enforce coherency by encouraging similarity of temporally adjacent frames.
- **Sub-actions exploration** - Extract common sub-action sets that can be shared with the entire gesture set.
- **Quantization-aware training** - Co-designs a training and quantization procedure to preserve E2E model accuracy.
- **Customers support** - Lead team members, diagnose and troubleshoot customer technical problem.
- **SDK** - Develop gesture sets as standard gestures on the SDK to facilitate product promotion.

Education

National Chung Cheng University   **Sep. 2017 – Jun. 2019**
M.Sc. in Electronic Engineering (4.14/4.30)   *Chiayi, Taiwan*

National Kaohsiung University of Applied Sciences   **Sep. 2013 – Jul. 2017**
B.Sc. in Electronic Engineering   *Kaohsiung, Taiwan*

Publications

You-Feng Wu, Vu-Hoang Tran, Ting-Wei Chang, Wei-Chen Chiu, Ching-Chun Huang, "DEN: Disentangling and Exchanging Network for Depth Completion", In ICPR, Sep., 2020.[Paper][Code]

You-Feng Wu, Vu-Hoang Tran, Wei-Chen Chiu, Ching-Chun Huang, "SEMI-SUPERVISED AND MULTI-TASK LEARNING FOR ON-STREET PARKING SPACE STATUS INFERENCE", In MAPR, May., 2019.[Paper][Code]

You-Feng Wu, Vu-Hoang Tran, Ting-Wei Chang, Wei-Chen Chiu, Ching-Chun Huang, "SENSOR BASED ON-STREET PARKING SPACE STATUS INFERENCE UPON A SEMI-SUPERVISED AND MULTI-TASK LEARNING NETWORK", In CVGIP, Aug., 2018.

Projects

Computer Vision Application | *Python*

- A Multi-task Network for Scene Segmentation and Depth Map Refinement used in a RGBD Robot.
- An Study of Active SLAM for a Cleaning Robot using an Omnidirectional Camera

Geomagnetic Sensor Application | *Python, C++*

- Automatic Management of Roadside Parking Spaces based on Deep Learning, Geomagnetic Sensor Networks, and LoRa Communication.

Technical Skills

Machine Learning and Data Science: Pytorch, Tensorflow, Keras
Programming Languages: Python, C++, Java
Developer Tools: Vim, Pycharm, VS Code, MATLAB
Technologies/Frameworks: Linux, Git

Honors and Awards

Master Thesis Award Honorable mention, Institute for Public Policy Research (IPPR), 2020.
Best Paper Award, Multimedia Analysis and Pattern Recognition (MAPR), 2019