Cheng-En Wu

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EDUCATION

University of Wisconsin-Madison Madison, WI
Graduate student in Electrical and Computer Engineering Sep. 2020 - Present

National Tsing Hua University Hsinchu, Taiwan
Master of Science in Computer Science Sep. 2014 - Jul. 2016

- Advisor: Prof. Jia-Shung Wang

National Taiwan University of Science and Technology Taipei, Taiwan
Bachelor of Science in Electrical and Computer Engineering Sep. 2009 - Jun. 2012

RESEARCH EXPERIENCE

Academia Sinica Taipei, Taiwan
Research Assistant Mar. 2018 - Aug. 2020

- Developed an approach to merge well-trained neural networks for multiple tasks.
- Built a tool for automatically merging all kinds of neural networks.
- Created an efficient on-road object detector on an embedding system.
- Innovated approaches for unforgetting continuous learning.
- Advisor: Prof. Chu-Song Chen

National Tsing Hua University Hsinchu, Taiwan
Research Assistant Sep. 2014 - Aug. 2016

- Designed a real-time vehicle tracking system for visual surveillance.
- Advisor: Prof. Jia-Shung Wang

ITRI Inc. Hsinchu, Taiwan
Research Assistant Jul. 2015 - Aug. 2015

- Developed MultiPath TCP to achieve high throughput of wireless networks.

PUBLICATIONS

Cheng-En Wu, Jia-Hong Lee, Timmy ST Wan, Yi-Ming Chan, and Chu-Song Chen. "Merging Well-Trained Deep CNN Models for Efficient Inference." *Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA)*, 2020.

*Cheng-Hao Tu, ***Cheng-En Wu**, and Chu-Song Chen. "Extending Conditional Convolution Structures For Enhancing Multitasking Continual Learning." *Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA)*, 2020.

Steven C. Y. Hung, Cheng-Hao Tu, **Cheng-En Wu**, Chien-Hung Chen, Yi-Ming Chan, and Chu-Song Chen. "Compacting, Picking and Growing for Unforgetting Continual Learning." *Thirty-third Conference on Neural Information Processing Systems (NeurIPS)*, 2019.

Cheng-En Wu, Yi-Ming Chan, Chien-Hung Chen, Wen-Cheng Chen, and Chu-Song Chen. "IMMVP: An Efficient Daytime and NighttimeOn-Road Object Detector." *IEEE 19th International Workshop on Multimedia Signal Processing (MMSP)*, 2019.

Cheng-En Wu, Yi-Ming Chan and, Chu-Song Chen. "On Merging MobileNets for Efficient Multi-task Inference." *Energy Efficient Machine Learning and Cognitive Computing for Embedded Applications (EMC^2) Workshop in the 25th IEEE International Symposium on High-Performance Computer Architecture (HPCA)*, 2019.

Cheng-En Wu, Wen-Yen Yang, Hai-Che Ting, and Jia-Shung Wang. "Traffic pattern modeling, trajectory classification and vehicle tracking within urban intersections." *IEEE International Smart Cities Conference (ISC2)*, 2017.

WORK EXPERIENCE

MediaTek Inc. Hsinchu, Taiwan
Software Engineer Mar. 2017 - Mar. 2018

- Improved the computational efficiency of neural networks on mobile devices.
- Developed mobile GPU drivers to boost run-time of applications using neural networks.
- Migrated ARM Mali GPU drivers to the Android platform.

Realtek Inc. Hsinchu, Taiwan
Software Engineer Dec. 2016 - Mar. 2017

- Developed H.264 encoder drivers for TV SOCs.

GOTrust Technology Inc. Taichung, Taiwan
Software Engineer Jan. 2014 - Jun. 2014

- Developed middlewares for the secure MicroSD card.
- Established an MFC-based testing tool for the production of secure MicroSD cards.

PROFESSIONAL ACTIVITIES

Paper Reviewing:

- British Machine Vision Conference(BMVC) 2020
- Journal of Information Science and Engineering(JSIE) 2020

SELECTED PROJECTS

Urban Computing Hsinchu, Taiwan
National Tsing Hua University, Visual Communication Lab Sep. 2015 - Jun. 2016

- Designed a real-time vehicle tracking method in a surveillance camera.
- Developed a system for trajectory classification and tracklet prediction.

Gesture Recognition Taipei, Taiwan
National Taiwan University of Science and Technology Mar. 2010 - Feb. 2011

- Developed a method for detecting the number of fingers raised.
- Built an Android App for gesture control of PowerPoint presentations.

PROGRAMMING SKILLS

TensorFlow, PyTorch, OpenCV, Caffe, C, C++, Python, Matlab, Android, Java