EVAN CHEN

evanchen@nycu.edu.tw

EDUCATION

National Yang Ming Chiao Tung University *Sep. 2017 - Jun. 2021*
Bachelor of Science, Electronics Engineering. GPA: 4.19/4.3 (Last 60: 4.25/4.3)
**National Chiao Tung Univ. (NCTU) and National Yang Ming Univ. merged into National Yang Ming Chiao Tung Univ. on Feb. 1, 2021*

STANDARDIZED TESTS

GRE
Verbal 153, Quantitative 168, Writing 3.5 *Sep. 8, 2019*

TOEFL
Reading 29, Listening 29, Speaking 25, Writing 25 *Mar. 27, 2021*

ACADEMIC HONORS

NCTU Academic Awards *Spring semester 2018*
NCTU Academic Awards *Fall semester 2018*
NCTU Academic Awards *Spring semester 2019*
NCTU Academic Awards *Fall semester 2019*
NCTU Academic Awards *Fall semester 2020*
MOST College Student Research Scholarship (Ministry of Science and Technology)
Topic: Heart-rate estimation without skin contact using neural network approach *Jul. 2020*

EXPERIENCE

Undergraduate Research *Jun. 2019 - Jun. 2021*
Professor Chen-Yi Lee,
Department of Electronics Engineering,
National Chiao Tung University

Summer Research Intern *2019 & 2020*
Professor Chen-Yi Lee,
Department of Electronics Engineering,
National Chiao Tung University

Research Assistant (Full Time) *Jun. 2021 - Current*
Professor Chen-Yi Lee,
Institute of Electronics,
National Yang Ming Chiao Tung University

Reviewer *Dec. 2021*
Conference Name: *IEEE/CVF Conference on Computer Vision and Pattern Recognition 2022*

PROJECTS

Remote Heart Rate Estimation
The project aims to detect heart rate from facial videos. We use a deep neural network combine with a Meta-Transductive Learner to construct an robust end-to-end heart rate estimation system. This project was in cooperation with Realtek Semiconductor Corp.

Foveated Video Super Resolution
We performed super resolution onto a low resolution video stream with the information of where the user's foveated region is. Given a streaming data flow including low resolution frames and high resolution foveated regions, we applied a dynamic convolution approach to extract the moving fovea region's information and enhance the overall image's resolution.

Video Prediction
We developed a hierarchical memory structure that can be cascaded onto LSTM for video frame prediction. The performance of our approach successfully outperforms current SotA of this field.

Context Aware Machine Learning
Most neural networks are designed to be a set of static weights that can fit a certain data distribution. This usually cause problems when facing real-world data that are noisy or far from training data's distribution. We are trying to use concepts from self-supervised learning, capsules, attention and dynamic convolutional neural networks to derive a robust and general method to take advantage of context stored in data points.

PUBLICATIONS

Lee, Eugene, Evan Chen, and Chen-Yi Lee. "Meta-rppg: Remote heart rate estimation using a transductive meta-learner." European Conference on Computer Vision. Springer, Cham, 2020.

Lee, Eugene, Evan Chen, and Chen-Yi Lee. "Modulation of Convolutional Neural Networks Using Top-Down Attention" Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2022. (Submitted)

Lee, Eugene, Lien-Feng Hsu, Evan Chen, and Chen-Yi Lee. "Multi-Resolution Cascaded-Flow for Foveated Video Super-Resolution " Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2022. (Submitted)

SKILLS

Tools	**Proficiency**
PyTorch	High
Tensorflow	High
Flutter	Medium
LaTeX	Medium

Languages	**Proficiency**
C/C++	High
Python	High
Matlab	High
Verilog	High
Java	Medium
Swift	Medium

Domain Knowledge	**Proficiency**
Computer Vision	High
Machine Learning Algorithm Development	High
Deep Learning Application Development	High
Information Theory	High
Wireless Communication	High
Optimization	High
Natural Language Processing	Medium