Tsung-Shan (Kevin) Yang

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Education

University of Southern California (USC)   **Aug 2022 - present**
Ph.D. in the Department of Electrical Computer Engineering   *California, USA*

National Taiwan University (NTU)   **Sep 2019 - Sep 2021**
Master of Science in Graduate Institute of Communications Engineering   *Taipei, Taiwan*
Major in Data Science and Smart Network
· GPA: 4.04 / 4.30

National Taiwan University (NTU)   **Sep 2014 - Jun 2019**
Bachelor of Science degree in the Department of Chemistry   *Taipei, Taiwan*
Bachelor of Science in Engineering degree in the Department of Electrical Engineering   *Taipei, Taiwan*
· GPA: 3.81 / 4.30

Research

USC - MediaComm Lab   **Aug 2022 - Now**
Ph.D. student in the Department of Electrical Engineering
Advisor: Prof. C.-C. Jay Kuo
· Green Learning in Image Understanding

NTU - Machine Learning and Estimation Theory Lab   **Jul 2019 - Sep 2021**
M.S. student in the Graduate Institute of Communications Engineering
Advisor: Prof. Pei-Yuan Wu
· Omnidirectional Image Encoding
· Propose a feature extraction method on panoramic images

NTU - Yuan-Chung Cheng's Research Group   **Jun 2017 - Feb 2019**
Undergraduate Student in the Department of Chemistry
Advisor: Prof. Yuan-Chung Cheng
· 2D spectrum analysis about coupling excited molecules
· Show ability to conduct an interdisciplinary project about machine learning and spectroscopy

Professional Experiences

NTU - Teaching Assistant of Machine Learning   **2019 Fall & 2020 Fall**
M.S. student in the Graduate Institute of Communications Engineering
Advisor: Prof. Pei-Yuan Wu
· Design assignments about theoretical analysis and deep learning projects
· Maintain the course website

NTU - Teaching Assistant of Data Structure   **2020 Spring**
M.S. student in the Graduate Institute of Communications Engineering
Advisor: Prof. Pei-Yuan Wu
· Design assignments about theoretical analysis and data structure implementation

NTU - Teaching Assistant of General Chemistry   **2018 Fall**
Undergraduate Student in the Department of Chemistry
Advisor: Prof. Yuan-Chung Cheng
· Lead group discussions and provide hints on assignments
· Provide two-hour TA classes each week for over 300 students

Publications

BPQA: ABlind Point Cloud Quality Assessment Method   **2023**
IEEE International Conference on Image Processing Challenges and Workshops (ICIPCW)
· Achieve the second-best score on the challenge with an interpretable and small learning scheme

Viewing Bias Matters in 360 Videos Visual Saliency Prediction   **2023**
IEEE Access Journal paper
· Statistically analyze the human bias in saliency maps and generalize the spherical kernel to time series data

Omnidirectional Image Encoding   **2021**
Master Thesis
· Propose an encoding based on great circle distance to revise the convolution output of omnidirectional images

NTIRE 2020 Challenge on NonHomogeneous Dehazing   **2020**
IEEE Computer Vision and Pattern Recognition (CVPR) Workshop paper
· Propose an attention refinement block of the deep learning model

Few Shot Learning With Difficult Settings   **2018**
The 31st IPPR Conference on Computer Vision, Graphic and Image Processing
· Analyze the different approaches to few-shot learning

IR Drop Prediction of ECO-Revised Circuits Using Machine Learning   **2018**
IEEE International Conference about very-large-scale integration testing and symposium (VTS)
· Reduce 30X simulation time through deep learning

Awards / Scholarship

Taiwan USC Scholarship   **2022**
Ministry of Education in Taiwan
· four-year full funding

Viterbi School of Engineering / Graduate School Fellowship   **2022**
University of Southern California
· one-year fellowship for Ph.D. student

Dean's List   **2014 Fall & 2015 Spring**
Department of Chemistry at NTU
· Awarded to the top 5% of students in the class

Gold Medal in 8th International Junior Science Olympiad (IJSO)   **2011**
International individual and team competition in the Natural Sciences

Skills

· ***Software***: *Python / C++ / HTML / MATLAB / C / JavaScript*

· **Strength**: Computer Vision / Deep Learning / Algorithm Design / Physical Chemistry / Quantum Chemistry

· **Languages**: English as a Second Language / Native Mandarin Speaker

· **Tools:** PyTorch / OpenCV / Tensorflow / Keras / Scikit-Learn

· **Projects can be viewed on my GitHub**: https://github.com/keevin60907