YOLOv4 and Its Applications

Dr. Mark Liao
Institute of Information Science,
Academia Sinica, Taiwan

23rd NFIC Invited Talk

Synopsis— **YOLOv4 has been ranked first in the world object detection competition for two and a half months. It defeated the R&D teams of international companies such as Google, Amazon, Facebook, Microsoft, and Qualcomm. The birth of YOLOv4 is actually closely related to the project "Development of Smart Transportation System''. This project is funded by the Ministry of Science and Technology, and it has led to a four-year cooperative relationship between the Academia Sinica and the listed company Elan Electronics. The speech explained in detail the beginning and end of the implementation of this smart transportation project, and how to develop YOLOv4, the fastest and most accurate object detector in the world during the execution of the project.**

■ **Speaker** Dr. Mark Liao received his Ph.D. degree in electrical engineering from Northwestern University in 1990. In July 1991, he joined the Institute of Information Science, Academia Sinica, Taiwan, and currently is a Distinguished Research Fellow and Director. He has worked in the fields of multimedia information processing, computer vision, pattern recognition, multimedia protection, and artificial intelligence for more than 30 years. He was appointed an Honorary Chair Professor of National Chiao-Tung University from 2016 to 2019. He received the Young Investigators' Award from Academia Sinica in 1998; the Distinguished Research Award from the National Science Council in 2003, 2010, and 2013; the Academia Sinica Investigator Award in 2010; the TECO Award from the TECO Foundation in 2016, and the 64th Academic Award from the Ministry of Education in 2020. His professional activities include: President, Image Processing and Pattern Recognition Society of Taiwan (2006-08); Editorial Board Member, ACM Computing Surveys (2018 – present), IEEE Signal Processing Magazine (2010-13); Associate Editor, IEEE Transactions on Image Processing (2009-13), IEEE Transactions on Information Forensics and Security (2009-12) and IEEE Transactions on Multimedia (1998-2001). He has been a Fellow of the IEEE since 2013.

23rd NFIC Live Recording

With YOLOv4，system could do real time computing at edge
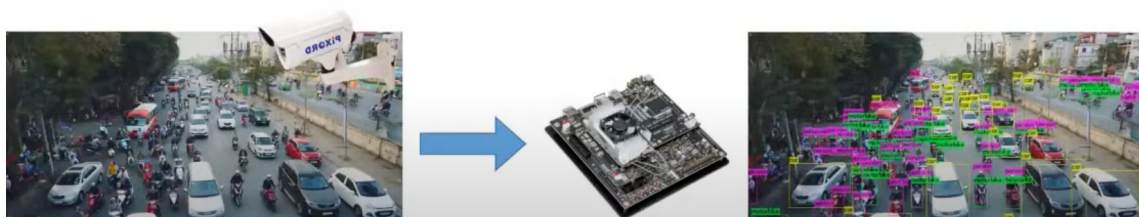
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