Perceptually-Inspired Deep Video Compression

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ABSTRACT

In recent years, deep learning techniques have made a major impact across a wide range of computer vision and image processing applications. They have also been applied in video compression, demonstrating great potential with significant gains over conventional video coding standards. This talk will introduce some of our recent works in this research area, including new training databases, network architectures, new quality assessment methods, perceptually inspired training methodologies and low complexity architectures. Some of these works have contributed to the development of the latest MPEG video coding standard, Versatile Video Coding (VVC), in particular to its neural network-based coding tools.

BIOGRAPHY

Dr. Aaron Zhang is a Senior Lecturer within the Computer Science School, University of Bristol. He received the BSc. and MSc. degrees from Shanghai Jiao Tong University, and the Ph.D. degree from the University of Bristol. Aaron has been involved in many research projects on video compression, quality assessment and creative technology. He published over 70 academic papers and have contributed to two books on video compression. His work on super-resolution based video compression and training databases for deep video coding, has contributed to international standardization processes (MPEG H.266/VVC). Aaron is also an associate editor of IEEE T-CSVT (2021-present).

All are welcome!

In case of questions, please contact Prof. Shiqi Wang at shiqwang@cityu.edu.hk, or visit the CS Departmental Seminar Web at https://www.cs.cityu.edu.hk/events/cs-seminars/recent-cs-colloquiums.