PROGRAM

Data Compression Conference (DCC 2019)

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Snowbird, Utah, March 26 - March 29, 2019

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Yan Ye, Alibaba Group

SCHEDULE OVERVIEW:

Tuesday Evening, March 26:
Registration and Reception (7pm - 10pm)

Wednesday, March 27:
Morning: Technical Sessions 1,2,3 (8:00am - 12:40am)
Mid-Day: Keynote Speaker (2:30pm - 3:30pm)
Afternoon: Technical Sessions 4,5 (4:00pm - 7:00pm)

Thursday, March 28:
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Afternoon: Poster Session and Reception (4:30pm - 7:30pm)

Friday, March 29:
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Afternoon: Technical Sessions 12,13 (noon - 3:00pm)
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  Alexander G. Ororbia II, Lee Giles², Ankur Mali², and David Miller²
  ¹Rochester Institute of Technology, ²Penn State University

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  ¹National Research University Higher School of Economics,
  ²Université de Lorraine, CNRS, Inria
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WEDNESDAY MID-DAY

Keynote Speaker
2:30pm - 3:30pm

25 Years of the BWT:
The Past and the Future of an Unusual Compressor

Giovanni Manzini
Professor, Department of Science and Technological Innovation,
University of Eastern Piedmont,
Alessandria, Italy

The "Block sorting data compression algorithm" by Mike Burrows and David Wheeler is certainly an unusual compressor. Considered initially by the authors too slow for practical use, it became an everyday tool for lossless compression thanks only to skillful algorithmic engineering.

Eventually, as it is natural, other compressors started outperforming block sorting, but the reversible transformation designed "to make redundancy in the input more accessible", which is at the core of this algorithm, turned out to be an extremely powerful conceptual tool that is still deeply influencing data structure design.

In this talk we try to understand why this transformation is so special, how it has been generalized to work on data quite different from simple sequences, and what are the possible directions for future research.
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Gonzalo Navarro\(^1\) and Victor Sepulveda\(^2\)
\(^1\)University of Chile, \(^2\)CeBiB

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Takaaki Nishimoto and Yasuo Tabei
RIKEN Center for Advanced Intelligence Project

8:40am: On Lempel-Ziv Decompression in Small Space
Simon J. Puglisi\(^1\) and Massimiliano Rossi\(^2\)
\(^1\)University of Helsinki, \(^2\)University of Verona

9:00am: Polynomial Time Algorithms for Constructing Optimal AIFV Codes
Mordecai J. Golin and Elfarouk Y. Harb
Hong Kong University of Science and Technology

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in HEVC
Yongfei Zhang\(^1\), Gang Wang\(^1\), Rui Tian\(^2\), Mai Xu\(^1\), and C.-C. Jay Kuo\(^3\)
\(^1\)Beihang University, \(^2\)Beijing Institute of Electronic System Engineering,
\(^3\)University of Southern California

10:00am: Enhanced Compression beyond HEVC for Next Generation Content
Kiran Misra, Andrew Segall, Weijia Zhu, Byeongdoo Choi, and Frank Bossen
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10:20am: Recursive Partitioning Search Space Pruning Using Split Cost Prediction
Adam Wieckowski, Jackie Ma, Heiko Schwarz, Detlev Marpe,
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Tianyi Li\(^1\), Mai Xu\(^1\), Ren Yang\(^1\), and Xiaoming Tao\(^2\)
\(^1\)Beihang University, \(^2\)Tsinghua University

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\(^1\)Technicolor, \(^2\)Qualcomm

11:40am: Improved Video Coding Techniques for Next Generation Video Coding
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\(^1\)InterDigital Communications, \(^2\)Alibaba Inc., \(^3\)Dolby

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Kiho Choi\(^1\), Jianle Chen\(^2\), Anish Tamse\(^1\), Haitao Yang\(^2\), Min Woo Park\(^1\),
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\(^1\)Samsung Electronics, \(^2\)Huawei Technologies
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¹Beijing Jiaotong University, ²Beijing Key Laboratory of Advanced Information Science and Network Technology

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¹UC San Diego, ²UC Irvine

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Huazhong University of Science & Technology

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\textsuperscript{1}Huazhong University of Science and Technology, \textsuperscript{2}Wuhan National Laboratory for Optoelectronics, \textsuperscript{3}Academy of Broadcasting Science

Efficient and Fast Coefficient Sign Inference for Video Coding

Daoyuan Xu\textsuperscript{1}, Peiyin Xing\textsuperscript{1}, Yaowei Wang\textsuperscript{2,3}, and Yonghong Tian\textsuperscript{1,2}
\textsuperscript{1}Peking University, \textsuperscript{2}Pengcheng Laboratory, \textsuperscript{3}Beijing Institute of Technology

DNQ: Dynamic Network Quantization

Yuhui Xu\textsuperscript{1}, Shuai Zhang\textsuperscript{2}, Yingyong Qi\textsuperscript{2}, Jiaxian Guo\textsuperscript{1}, Weiyao Lin\textsuperscript{1}, and Hongkai Xiong\textsuperscript{1}
\textsuperscript{1}Shanghai Jiao Tong University, \textsuperscript{2}Qualcomm AI Research

Bank Select Method for Reducing Symbol Search Operations on Stream-Based Lossless Data Compression

Shinichi Yamagiwa, Ryuta Morita, and Koichi Marumo
University of Tsukuba

Event-Triggered Stochastic Control via Constrained Quantization

Hikmet Yıldız\textsuperscript{1}, Yu Su\textsuperscript{1}, Anatoly Khina\textsuperscript{2}, and Babak Hassibi\textsuperscript{1}
\textsuperscript{1}California Institute of Technology, \textsuperscript{2}Tel Aviv University

Enhanced Intra Block Copy with Planar Perspective Transformation for Urban Building Scenes

Qijun Wang, Chen Zhang, Jiafei Xu, and Chao Yang
Anhui University

Fast PU Early Termination Algorithm Based on WMSE for ERP Video Intra Prediction

Mengmeng Zhang\textsuperscript{1}, Renbo Su\textsuperscript{1}, Zhi Liu\textsuperscript{1}, Fuqi Mao\textsuperscript{1,2}, and Wen Yue\textsuperscript{2}
\textsuperscript{1}North China University of Technology, \textsuperscript{2}China University of Geosciences

Deep Multiple Description Coding by Learning Scalar Quantization

Lijun Zhao\textsuperscript{1}, Huihui Bai\textsuperscript{1}, Anhong Wang\textsuperscript{2}, and Yao Zhao\textsuperscript{1}
\textsuperscript{1}Beijing Jiaotong University, \textsuperscript{2}Taiyuan University of Science and Technology

ResGAN: A Low-Level Image Processing Network to Restore Original Quality of JPEG Compressed Images

Chunbiao Zhu\textsuperscript{1}, Yuanqi Chen\textsuperscript{1}, Yiwei Zhang\textsuperscript{1}, Shan Liu\textsuperscript{2}, and Ge Li\textsuperscript{1}
\textsuperscript{1}Peking University, \textsuperscript{2}Tencent America