

Publications

COPYRIGHT NOTICE: All the documents on this server have been submitted by their authors to scholarly journals or conferences as indicated, for the purpose of non-commercial dissemination of scientific work. The manuscripts are put on-line to facilitate this purpose. These manuscripts are copyrighted by the authors or the journals in which they were published. You may copy a manuscript for scholarly, non-commercial purposes, such as research or instruction, provided that you agree to respect these copyrights.

2018

Ngoc-Trung Tran, Tuan-Anh Bui, **Ngai-Man Cheung**, "Dist-GAN: An Improved GAN using Distance Constraints," in Proc. ECCV-18. [\[PDF\]](#) [\[Supplementary\]](#)

Yiluan Guo, **Ngai-Man Cheung**, "Efficient and Deep Person Re-Identification using Multi-Level Similarity," in Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR-18). [\[PDF\]](#)

Yiren Zhou, Seyed-Mohsen Moosavi-Dezfooli, **Ngai-Man Cheung**, Pascal Frossard, "Adaptive Quantization for Deep Neural Network," in Proc. Thirty-Second AAAI Conference on Artificial Intelligence (AAAI-18). [\[PDF\]](#)

2017

Manas Khatua, Seyed Hamid Safavi, **Ngai-Man Cheung**, "Sparse Laplacian Component Analysis for Internet Traffic Anomalies Detection." IEEE Transactions on Signal and Information Processing over Networks, 2017. [\[PDF\]](#)

TT Do, V Pomponiu, **NM Cheung**, et al., "Accessible Melanoma Detection using Smartphones and Mobile Image Analysis." IEEE Transactions on Multimedia. 2017. [\[PDF\]](#)

TT Do, **Ngai-Man Cheung**, "Embedding based on function approximation for large scale image search." IEEE Transactions on Pattern Analysis and Machine Intelligence. 2017. [\[PDF\]](#)

Jiyan Wu, Chau Yuen, **Ngai-Man Cheung**, Junliang Chen, Chang Wen Chen, "Streaming Mobile Cloud Gaming Video over TCP with Adaptive Source-FEC Coding." IEEE Transactions on Circuits and Systems for Video Technology - Special Issue on Visual Computing in the Cloud: Mobile Computing. 2017. [\[PDF\]](#)

X Sun, **NM Cheung**, H Yao, Y Guo, "Non-Rigid Object Tracking via Deformable Patches Using Shape-Preserved KCF and Level Sets," in Proc. IEEE International Conference on Computer Vision (ICCV-17). [\[PDF\]](#)

Thanh-Toan Do, Dang-Khoa Le Tan, **Ngai-Man Cheung**, "Simultaneous Feature Aggregating and Hashing for Large-scale Image Search," in Proc. IEEE CVPR 2017. [\[PDF\]](#)

Tuan Hoang, Thanh-Toan Do, Dang-Khoa Le Tan, **Ngai-Man Cheung**, "Selective Deep Convolutional Features for Image Retrieval," in Proc. ACM Multimedia 2017. [\[PDF\]](#)

R Liu, H Nejati, Seyed Hamid Safavi, **Ngai-Man Cheung**, "Simultaneous Low-rank Component and Graph Estimation for High-dimensional Graph Signals: Application to Brain Imaging," in Proc. ICASSP 2017. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2017. [\[PDF\]](#)

Yiren Zhou, Sibo Song, **Ngai-Man Cheung**, "On Classification of Distorted Images with Deep Convolutional Neural Networks," in Proc. ICASSP 2017. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2017. [\[PDF\]](#)

Y Guo, H Nejati, **Ngai-Man Cheung**, "Deep neural networks on graph signals for brain imaging analysis," in Proc. ICIP 2017. IEEE International Conference on Image Processing 2017. [\[PDF\]](#)

T Hoang, TT Do, DKL Tan, **Ngai-Man Cheung**, "Enhance Feature Discrimination for Unsupervised Hashing," in Proc. ICIP 2017. IEEE International Conference on Image Processing 2017. [\[PDF\]](#)

Touba Malekzadeh, Milad Abdollahzadeh, Hossein Nejati, **Ngai-Man Cheung**, "Aircraft fuselage defect detection using deep neural networks," in Proc. IEEE Global Conference on Signal and Information Processing (GlobalSIP-2017) [\[PDF\]](#)

Manas Khatua, Seyed Hamid Safavi, and **Ngai-Man Cheung**, "Detection of Internet Traffic Anomalies using Sparse Laplacian Component Analysis," in Proc. IEEE Global Communications Conference (Globecom-2017) [\[PDF\]](#)

Xin Sun, Jiatao Ding, Giacomo Dalla Chiara, Lynette Cheah, **Ngai-Man Cheung**, "A Generic Framework for Monitoring Local Freight Traffic Movements Using Computer Vision-based Techniques," in Proc. 5th IEEE International Conference on Models and Technologies for Intelligent Transportation Systems (MT-ITS) 2017. [\[PDF\]](#)

S Misra, M Tan, M Rezazad, NM Cheung, "Early detection of Crossfire attacks using deep learning," Deep Learning Security Workshop 2017. [\[PDF\]](#)

Aaron Tan, Michelle Liang, Martin Chio, Tuan Nguyen Anh Hoang, Yiren Zhou, **Ngai-Man Cheung**, Dawn C-I Koh, Suat-Hoon Tan, "Mobile Imaging System for Early Melanoma Detection: Design and Evaluation." Australia-Singapore Partnership in Skin Cancer Biology Conference 2017. [\[Best Poster Award\]](#)

2016

Hossein Nejati, Victor Pomponiu, Dothan Toan, Yiren Zhou, Sahar Iravani, **Ngai-Man Cheung**, "Smartphone and Mobile Image Processing for Assisted Living." IEEE Signal Processing Magazine 2016 (IF: 5.852) [\[PDF\]](#)

Yiren Zhou, Thanh-Toan Do, Haitian Zheng, **Ngai-Man Cheung**, and Lu Fang, "Computation and Memory Efficient Image Segmentation." IEEE Transactions on Circuits and Systems for Video Technology 2016. [\[PDF\]](#)

Seong-Ping Chuah, **Ngai-Man Cheung**, Chau Yuen, "Layered Coding for Mobile Cloud Gaming Using Scalable Blinn-Phong Lighting." IEEE Transactions on Image Processing, vol. 25, no. 7, July 2016. [\[PDF\]](#)

Wei Dai, Gene Cheung, **Ngai-Man Cheung**, Antonio Ortega, Oscar C. Au, "Merge Frame Design for Video Stream Switching using Piecewise Constant Functions." IEEE Transactions on Image Processing. 2016. [\[PDF\]](#)

Jiyan Wu, Chau Yuen, **Ngai-Man Cheung**, Junliang Chen, Chang Wen Chen, "Modeling and Optimization of High Frame Rate Video Transmission Over Wireless Networks." IEEE Transactions on Wireless Communications. 2016. [\[PDF\]](#)

Thanh-Toan Do, Anh-Dzung Doan, **Ngai-Man Cheung**, "Learning to Hash with Binary Deep Neural Network," in Proc. 14th European Conference on Computer Vision (ECCV) 2016. [\[PDF\]](#)

Thanh-Toan Do, Anh-Dzung Doan, Duc-Thanh Nguyen, **Ngai-Man Cheung**, "Binary Hashing with Semidefinite Relaxation and Augmented Lagrangian," in Proc. 14th European Conference on Computer Vision (ECCV) 2016. [\[PDF\]](#)

V Pomponiu, H Nejati, **Ngai-Man Cheung**, "Deepmole: Deep neural networks for skin mole lesion classification," in Proc. IEEE International Conference on Image Processing (ICIP) 2016. [\[PDF\]](#)

Lu Rui, H Nejati, **Ngai-Man Cheung**, "Dimensionality reduction of brain imaging data using graph signal processing," in Proc. IEEE International Conference on Image Processing (ICIP) 2016. [\[PDF\]](#)

Yiren Zhou, H Nejati, TT Do, **Ngai-Man Cheung**, L Cheah, "Image-based Vehicle Analysis using Deep Neural Network: A Systematic Study," in Proc. IEEE International Conference on Digital Signal Processing (DSP) 2016. [\[PDF\]](#)

S. Song, V. Chandrasekhar, B. Mandal, L. Li, J. H. Lim, G. S. Babu, P. P. San, **Ngai-Man Cheung**, "Multimodal Multi-Stream Deep Learning for Egocentric Activity Recognition", Proc. of IEEE CVPR - 4th Workshop on Egocentric (First-Person) Vision 2016. [\[PDF\]](#)

S. Song, **Ngai-Man Cheung**, V Chandrasekhar, B Mandal, J Lin, "Egocentric Activity Recognition with Multimodal Fisher Vector," in Proc. ICASSP 2016. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2016. [\[PDF\]](#)

Ali Hashemi, Mohammad Rostami, **Ngai-Man Cheung**, "Efficient Environmental Temperature Monitoring Using Compressed Sensing," in Proc. IEEE Data Compression Conference (DCC) 2016.

Hossein Nejati, Yiren Zhou, Sahar Iravani, **Ngai-Man Cheung**, Kheng-Hock Lee, Lian-Leng Low, Joo-Ming Ng, and Lee-Foong Liew, "Chronic wound assessment using deep neural network," SingHealth Duke-NUS Scientific Congress 2016 (SDC-2016).

2015

- Fang Lu, Yijian Xiang, **Ngai-Man Cheung**, Feng Wu, "[Estimation of Virtual View Synthesis Distortion Towards Virtual View Position.](#)" IEEE Transactions on Image Processing (T-IP). 2015.
- J. Wu, C Yuen, **Ngai-Man Cheung**, J Chen, Chang Wen Chen, "[Enabling Adaptive High-Frame-Rate Video Streaming in Mobile Cloud Gaming Applications.](#)" IEEE Transactions on Circuits and Systems for Video Technology - Special Issue on Visual Computing in the Cloud: Cloud Gaming and Virtualization. 2015.
- K. Tsourides, S. Shariat, H. Nejati, Tapan K Gandhi, A. Cardinaux, C.T. Simons, **Ngai-Man Cheung**, Vladimir Pavlovic, Pawan Sinha, "[Neural correlates of the food / non-food visual distinction.](#)" Biological Psychology. 2015 (IF: 3.403)
- J Wu, C Yuen, **Ngai-Man Cheung**, J Chen, "[Delay-Constrained High Definition Video Transmission in Heterogeneous Wireless Networks with Multi-homed Terminals.](#)" IEEE Transactions on Mobile Computing 2015.
- Jiyan Wu, B. Cheng, C. Yuen, **Ngai-Man Cheung**, J. Chen, "[Trading Delay for Distortion in One-Way Video Communication over the Internet.](#)" IEEE Transactions on Circuits and Systems for Video Technology, March 2015.
- H Nejati, K Tsourides, V Pomponiu, EC Ehrenberg, **Ngai-Man Cheung**, P Sinha, "[Towards perception awareness: Perceptual event detection for Brain computer interfaces.](#)" in Proc. IEEE Annual Conference of Engineering in Medicine and Biology Society (EMBC) 2015.
- SP Chuah, **Ngai-Man Cheung**, C Yuen, "[Information-theoretic analysis of Blinn-Phong lighting with application to mobile cloud gaming.](#)" in Proc. ICIP 2015. IEEE Int. Conf. Image Processing (ICIP) 2015.
- Dothan Toan, Quang D. Tran, **Ngai-Man Cheung**, "[FAemb: a function approximation-based embedding method for image retrieval.](#)" in Proc. IEEE CVPR 2015. The 28th IEEE Conference on Computer Vision and Pattern Recognition.
- Yijian Xiang, Lu Fang, Ren Li, **Ngai-Man Cheung**, "[Depth Error Induced Virtual View Synthesis Distortion Estimation for 3D Video Coding.](#)" in Proc. IEEE DCC 2015. The 25th IEEE Data Compression Conference. (Full paper, oral presentation)
- Yichen Zhang, **Ngai-Man Cheung**, Lu Yu, "[On the Efficiency of View Synthesis Prediction for 3D Video Coding.](#)" in Proc. IEEE DCC 2015. The 25th IEEE Data Compression Conference. (Full paper, oral presentation)
- Chen Zhao, **Ngai-Man Cheung**, Ricardo Sosa, Dawn Koh, "[Designing Self-Diagnosis Applications for Non-Patients.](#)" in Proc. ACM CHI'15 Extended Abstracts. The 33rd Annual ACM Conference on Human Factors in Computing Systems. [Poster]
- Yichen Zhang, **Ngai-Man Cheung**, Lu Yu, "[The efficiency of view synthesis prediction for 3D video coding: A spectral domain analysis.](#)" in Proc. IEEE ICASSP 2015. The 40th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2015.
- Dothan Toan, Victor Pomponiu, Yiren Zhou, Zheng Haitian, Chen Zhao, **Ngai-Man Cheung**, Dawn C-I Koh, Ricardo Sosa, Aaron Tan, Martin Chio, Michelle Liang, Suat-Hoon Tan and Susan Swetter, "[Designing a Mobile Imaging System for Early Melanoma Detection.](#)" American Academy of Dermatology (AAD) Annual Meeting 2015. [Presentation]
- Ngai-Man Cheung**, Victor Pomponiu, Dothan Toan and Hossein Nejati, "[Mobile image analysis for medical applications.](#)" SPIE Newsroom 2015.

2014

- Lu Fang, **Ngai-Man Cheung**, Dong Tian, Anthony Vetro, Huifang Sun, Oscar C. Au, "[An Analytical Model for Synthesis Distortion Estimation in 3D Video.](#)" IEEE Transactions on Image Processing, vol. 23, no. 1, January 2014.
- S. Chuah, Yuen Chau, **Ngai-Man Cheung**, "[Cloud Gaming: A Green Solution to Massive Multiplayer Online Games.](#)" IEEE Wireless Communications Magazine, vol. 21, issue 4, August 2014.
- Hossein Nejati, **Ngai-Man Cheung**, Ricardo Sosa, Dawn Koh, "[DeepCAPTCHA: An Image CAPTCHA based on Depth Perception.](#)" in Proc. ACM Multimedia Systems Conference 2014.
- S. Chuah, **Ngai-Man Cheung**, "[Bandwidth Efficient Mobile Cloud Gaming with Layered Coding and Scalable Phong Lighting.](#)" in Proc. IEEE Int. Conf. Image Processing (ICIP) 2014. [Experiment dataset]
- Yijian Xiang, **Ngai-Man Cheung**, Juyong Zhang, Lu Fang, "[Analytical Model for Camera Distance Related 3D Virtual View Distortion Estimation.](#)" in Proc. IEEE Int. Conf. Image Processing (ICIP) 2014.
- Thanh-Toan Do, Yiren Zhou, H. Zheng, **Ngai-Man Cheung**, Dawn Koh, "[Early melanoma diagnosis with mobile imaging.](#)" 36th IEEE Annual International Conference of the Engineering in Medicine and Biology Society (EMBC) 2014. [Presentation Slide] [Prototype Video]
- Chen Zhao, Ricardo Sosa, **Ngai-Man Cheung**, Dawn Koh, "[I am not a patient: Design challenges in self-screening medical devices.](#)" in Proc. ACM CHI 2014 - Workshop on Beyond Quantified Self: Data for Wellbeing 2014.
- S. Chuah, **Ngai-Man Cheung**, "Layered Coding for Mobile Cloud Gaming," in Proc. ACM Multimedia Systems - International Workshop on Massively Multiuser Virtual Environments (MMVE) 2014.
- Ngai-Man Cheung**, Dawn Koh, "[Mobile Imaging System for Early Diagnosis of Skin Cancer.](#)" IEEE Life Sciences Newsletter. Jan 2014.
- Ngai-Man Cheung**, Dong Tian, Anthony Vetro, Huifang Sun, "[Method for Modeling and Estimating Rendering Errors in Virtual Images.](#)" US patent 8692840. Apr. 8, 2014. Granted.
- Dong Tian, **Ngai-Man Cheung**, Anthony Vetro, "Method and System for Processing Multiview Videos for View Synthesis Using Skip and Direct Modes" US patent Granted.
- Ngai-Man Cheung**, Seong Ping Chuah, "Layered Coding of Game Videos for Mobile Cloud Gaming" Singapore provisional patent filed. Jan 2014.
- Hossein Nejati, **Ngai-Man Cheung**, Ricardo Sosa, Dawn Koh, "DeepCAPTCHA: A User-Friendly Image CAPTCHA based on Depth Perception" Singapore provisional patent filed. March 2014.
- Sibo Song, Vijay Chandrasekhar, **Ngai-Man Cheung**, Sanath Narayan, Liyuan Li, Joo-Hwee Lim, "[Activity Recognition in Egocentric Life-logging Videos.](#)" in Proc. 12th ACCV (Asian Conference on Computer Vision) Workshop 2014. [Google Glass Life-logging Visual Dataset]

2013

- Lu Fang, Oscar C. Au, **Ngai-Man Cheung**, Aggelos K. Katsaggelos, Houqiang Li, and Feng Zou, "[Luma-Chroma Space Filter Design for Subpixel-Based Monochrome Image Downsampling.](#)" IEEE Transactions on Image Processing, vol. 22, no. 10, Oct. 2013.
- Ngai-Man Cheung**, Gene Cheung, "[Coding for Interactive Navigation in High-dimensional Media Data.](#)" in Emerging Technologies for 3D Video, Frederic Dufaux, Beatrice Pesquet-Popescu, Marco Cagnazzo, Eds., John Wiley and Sons, 2013.
- Lu Fang, Oscar C. Au, **Ngai-Man Cheung**, "[Subpixel Rendering: From Font Rendering to Image Subsampling.](#)" IEEE Signal Processing Magazine, April 2013.
- Thanh-Toan Do, Yiren Zhou, Haitian Zheng, Hossein Nejati, **Ngai-Man Cheung**, Dawn Koh, Ricardo Sosa, Suat-Hoon Tan, Martin Chio, Michelle Liang, Aaron Tan, and Susan Swetter, "[Design of a Mobile Imaging System for Early Diagnosis of Skin Cancer.](#)" IEEE Life Sciences Grand Challenges Conference 2013. [Best Poster Award]
- Rui Ma, **Ngai-Man Cheung**, Oscar C. Au, Dong Tian, "[Novel Distortion Metric for Depth Coding of 3D Video.](#)" in Proc. IEEE Int. Conf. Image Processing (ICIP) 2013.
- Lu Fang, **Ngai-Man Cheung**, Dong Tian, Anthony Vetro, Huifang Sun, Lu Yu, "[Synthesis Distortion Estimation in 3D Video using Frequency and Spatial Analysis.](#)" in Proc. IEEE Int. Conf. Image Processing (ICIP) 2013.
- Wei Dai, Gene Cheung, **Ngai-Man Cheung**, Antonio Ortega, Oscar C. Au, "[Rate-distortion Optimized Merge Frame using Piecewise Constant Functions.](#)" in Proc. IEEE Int. Conf. Image Processing (ICIP) 2013. [Best Student Paper Award]
- Mohammad Rostami, **Ngai-Man Cheung**, Tony Q. S. Quek, "[Compressed Sensing of Diffusion Fields under Heat Equation Constraint.](#)" in Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing (ICASSP) 2013.
- L. Fang, **Ngai-Man Cheung**, O. C. Au, H. Li, K. Tang, "[Low Bit-rate Subpixel-based Color Image Compression.](#)" in Proc. IEEE Data Compression Conference (DCC) 2013.

Ngai-Man Cheung, Selin Ahipasaoglu, Peter Richtarik, Martin Takac, "Method and System for Classifying Images," UK Provisional Patent application: 1313125.5 filed, July 2013.

Oscar Au, Wei Dai, Gene Cheung, **Ngai-Man Cheung**, Antonio Ortega, "Rate-Distortion Optimized Merge Frame Using Piecewise Constant Functions," US Provisional Patent Application (No. 61/957,941) filed, July 2013.

Before 2013

Journal Papers, Book Chapters

Bernd Girod, Vijay Chandrasekhar, David Chen, **Ngai-Man Cheung**, Radek Grzeszczuk, Yuriy Reznik, Gabriel Takacs, Sam Tsai, Ramakrishna Vedantham, "[Mobile Visual Search](#)," IEEE Signal Processing Magazine - Special Issue on Mobile Media Search, vol. 28, no. 4, pp. 61-76, July 2011.

Gene Cheung, Antonio Ortega, **Ngai-Man Cheung**, "[Interactive Streaming of Stored Multiview Video using Redundant Frame Structures](#)," IEEE Transactions on Image Processing, vol. 20, no. 3, pp. 744-761, March 2011.

Ngai-Man Cheung, Sherif Halawa, Derek Pang, Bernd Girod, "[Multimedia Technology for Next Generation Online Lecture Video](#)," IEEE COMSOC MMTC E-Letter, vol. 6, no. 1, pp. 13-16, Jan. 2011.

Gene Cheung, **Ngai-Man Cheung**, "High-dimensional Media Compression for Interactive Streaming," IEEE COMSOC MMTC E-Letter, vol. 6, no. 1, pp. 26-28, Jan. 2011.

Ngai-Man Cheung, Xiaopeng Fan, Oscar C. Au, Man-Cheung Kung, "[Video Coding on Multi-Core Graphics Processors](#)," IEEE Signal Processing Magazine - Special Issue on Signal Processing on Platforms with Multiple Cores: Design and Applications, vol. 27, no. 2, pp. 79-89, March 2010.

Xiaopeng Fan, Oscar C. Au, **Ngai-Man Cheung**, "Transform-domain Adaptive Correlation Estimation (TRACE) for Wyner-Ziv Video Coding," IEEE Transactions on Circuit and System for Video Technology, vol. 20, no. 11, pp. 1423-1436, Nov. 2010.

Xiaopeng Fan, Oscar C. Au, **Ngai-Man Cheung**, Yan Chen, Jiantao Zhou, "Successive Refinement based Wyner-Ziv Video Compression," EURASIP Signal Processing: Image Communication, vol. 25, no. 1, pp. 47-63, Jan. 2010.

Ngai-Man Cheung, Oscar C. Au, Man-Cheung Kung, Peter H.W. Wong, Chun Hung Liu, "[Highly Parallel Rate-Distortion Optimized Intra Mode Decision On Multi-Core Graphics Processors](#)," IEEE Transactions on Circuit and System for Video Technology - Special Issue on Algorithm/Architecture Co-Exploration of Visual Computing, vol. 19, no. 11, pp. 1692 - 1703, Nov. 2009.

[Nomination for IEEE Transactions on CSVT Best Paper Award 2010]

Ngai-Man Cheung and Antonio Ortega, "[Distributed Compression of Hyperspectral Imagery](#)," in Distributed Source Coding, Pier Luigi Dragotti and Michael Gastpar, Eds., Academic Press 2009.

Ngai-Man Cheung, Huisheng Wang, Antonio Ortega, "[Sampling-based Correlation Estimation for Distributed Source Coding Under Rate and Complexity Constraints](#)," IEEE Transactions on Image Processing, Volume 17, Issue 11, Pages: 2122 - 2137, Nov. 2008.

Ngai-Man Cheung, Caimu Tang, Antonio Ortega and Cauligi S. Raghavendra, "[Efficient Wavelet-based Predictive Slepian-Wolf Coding for Hyperspectral Imagery](#)," EURASIP Journal on Signal Processing - Special Issue on Distributed Source Coding, 86(11), 3180-3195, 2006.

Huisheng Wang, **Ngai-Man Cheung**, Antonio Ortega, "[A Framework for Adaptive Fine Granularity Scalable Coding using Wyner-Ziv Techniques](#)," EURASIP Journal on Advances in Signal Processing, vol. 2006, Article ID 60971, 18 pages, 2006.

[EURASIP Journal on Advances in Signal Processing Best Paper Award 2006]

Conference Papers

Ngai-Man Cheung, Dong Tian, Anthony Vetro, Huifang Sun, "[On Modeling the Rendering Error in 3D Video](#)," in Proc. IEEE Int. Conf. Image Processing (ICIP) 2012.

Sherif Halawa, Derek Pang, **Ngai-Man Cheung**, and Bernd Girod, "[ClassX: An Open Source Interactive Lecture Streaming System](#)," in Proc. ACM Multimedia (ACM MM) 2011.

[Also reported in: [Stanford News](#), [Stanford Daily](#), [ACM TechNews](#), [Computer Vision Central](#), [myScience](#), [WorldJournal](#)]

[ACM Multimedia Open Source Competition - Honorable Mention]

Derek Pang, Sherif Halawa, **Ngai-Man Cheung**, and Bernd Girod, "[Mobile Interactive Region-of-Interest Video Streaming with Crowd-Driven Pre-fetching](#)," in Proc. ACM Multimedia (ACM MM) 2011.

Derek Pang, Sherif Halawa, **Ngai-Man Cheung**, and Bernd Girod, "[ClassX Mobile: Region-of-Interest Video Streaming to Mobile Devices with Multi-Touch Interaction](#)," in Proc. ACM Multimedia (ACM MM) 2011.

G. Schroth, **Ngai-Man Cheung**, E. Steinbach, B. Girod, "[Synchronization of Presentation Slides and Lecture Videos Using Bit Rate Sequences](#)," in Proc. IEEE Int. Conf. Image Processing (ICIP) 2011.

Mina Makar, Yao-Chung Lin, **Ngai-Man Cheung**, Derek Pang, and Bernd Girod, "[Quality-controlled View Interpolation for Multiview Video](#)," in Proc. IEEE Int. Conf. Image Processing (ICIP) 2011.

Vijay Chandrasekhar, David Chen, Sam Tsai, **Ngai-Man Cheung**, Huizhong Chen, Gabriel Takacs, Yuriy Reznik, Ramakrishna Vedantham, Radek Grzeszczuk, Jeff Bach, and Bernd Girod, "[The Stanford mobile visual search dataset](#)," in Proc. ACM Multimedia Systems Conference (MMSys) 2011.

Ngai-Man Cheung, David Chen, Vijay Chandrasekhar, Sam Tsai, Gabriel Takacs, Sherif A. Halawa, Bernd Girod, "[Restoration of Out-of-focus Lecture Video by Automatic Slide Matching](#)," in Proc. ACM Multimedia (ACM MM) 2010.

Sam S. Tsai, David Chen, Vijay Chandrasekhar, Gabriel Takacs, **Ngai-Man Cheung**, Ramakrishna Vedantham, Radek Grzeszczuk, and Bernd Girod, "[Mobile product recognition](#)," in Proc. ACM Multimedia (ACM MM) 2010.

Vijay Chandrasekhar, Sam Tsai, Gabriel Takacs, David Chen, **Ngai-Man Cheung**, Yuriy Reznik, Ramakrishna Vedantham, Radek Grzeszczuk, and Bernd Girod, "[Low latency image retrieval with progressive transmission of CHoG descriptors](#)," in Proc. ACM Multimedia (ACM MM) 2010.

David Chen, **Ngai-Man Cheung**, Sam Tsai, Vijay Chandrasekhar, Gabriel Takacs, Ramakrishna Vedantham, Radek Grzeszczuk, Bernd Girod, "[Dynamic Selection of a Feature-Rich Query Frame for Mobile Video Retrieval](#)," in Proc. IEEE Int. Conf. Image Processing (ICIP) 2010.

Vijay Chandrasekhar, David M. Chen, Andy Lin, Gabriel Takacs, Sam S. Tsai, **Ngai-Man Cheung**, Yuriy Reznik, and Bernd Girod, "[Comparison of Local Feature Descriptors for Mobile Visual Search](#)," in Proc. IEEE Int. Conf. Image Processing (ICIP) 2010.

Ngai-Man Cheung, Antonio Ortega, Gene Cheung, "[Rate-distortion based Reconstruction Optimization in Distributed Source Coding for Interactive Multiview Video Streaming](#)," in Proc. IEEE Int. Conf. Image Processing (ICIP) 2010.

Aditya Mavlankar, Piyush Agrawal, Derek Pang, Sherif Halawa, **Ngai-Man Cheung**, and Bernd Girod, "[An Interactive Region-of-Interest Video Streaming System for Online Lecture Viewing](#)," in Proc. International Packet Video Workshop (PV), 2010.

Gene Cheung, Antonio Ortega, **Ngai-Man Cheung**, and Bernd Girod, "[On Media Data Structures for Interactive Streaming in Immersive Applications](#)," in Proc. Visual Communications and Image Processing (VCIP) 2010.

Gene Cheung, **Ngai-Man Cheung**, Antonio Ortega, "[Optimized Frame Structure using Distributed Source Coding for Interactive Multiview Video Streaming](#)," in Proc. IEEE Int. Conf. Image Processing (ICIP) 2009.

Ngai-Man Cheung, Antonio Ortega, Gene Cheung, "[Distributed Source Coding Techniques for Interactive Multiview Video Streaming](#)," in Proc. Picture Coding Symposium (PCS) 2009.

Gene Cheung, Antonio Ortega, **Ngai-Man Cheung**, "[Generation of Redundant Frame Structure for Interactive Multiview Streaming](#)," in Proc. International Packet Video Workshop 2009.

Gene Cheung, Antonio Ortega, **Ngai-Man Cheung**, "[Bandwidth-Efficient Interactive Multiview Live Video Streaming using Redundant Frame Structures](#)," in Proc. APSIPA Annual Summit and Conference 2009.

Ngai-Man Cheung, Oscar C. Au, M.-C. Kung, X. Fan, "[Parallel Rate-distortion Optimized Intra Mode Decision on Multi-core Graphics Processors using Greedy-based Encoding Orders](#)," in Proc. IEEE Int. Conf. Image Processing (ICIP) 2009.

Xiaopeng Fan, Oscar C. Au, **Ngai-Man Cheung**, "Adaptive Correlation Estimation for General Wyner-Ziv Video Coding," in Proc. IEEE Int. Conf. Image Processing (ICIP) 2009.

Ngai-Man Cheung and Antonio Ortega, "[Compression Algorithms for Flexible Video Decoding](#)," in Proc. Visual Communications and Image Processing (VCIP) 2008.
[Best Paper Second Place Award]
[USC Electrical Engineering Best Student Paper Award Honorable Mention]

Ngai-Man Cheung and Antonio Ortega, "[Distributed Source Coding Application to Low-Delay Free Viewpoint Switching in Multiview Video Compression](#)," in Proc. Picture Coding Symposium (PCS) 2007.
[Best Paper Award Finalists]

Ngai-Man Cheung and Antonio Ortega, "[Flexible Video Decoding: A Distributed Source Coding Approach](#)," in Proc. IEEE International Workshop on Multimedia Signal Processing (MMSP) 2007.
[Best Student Paper Award]

Ngai-Man Cheung and Antonio Ortega, "A model-based approach to correlation estimation in wavelet-based distributed source coding with application to hyperspectral imagery," in Proc. IEEE Int. Conf. Image Processing (ICIP) 2006.

Ngai-Man Cheung and Antonio Ortega, "An efficient and highly parallel hyperspectral imagery compression scheme based on distributed source coding," in Proc. Asilomar Conf. Signals, Systems, and Computers 2006.

Ngai-Man Cheung, Huisheng Wang, Antonio Ortega, "Video compression with flexible playback order based on distributed source coding," in Proc. Visual Communications and Image Processing (VCIP) 2006.

Ngai-Man Cheung, Huisheng Wang, Antonio Ortega, "Correlation estimation for distributed source coding under information exchange constraints," in Proc. IEEE Int. Conf. Image Processing (ICIP) 2005.

C. Tang, **Ngai-Man Cheung**, Antonio Ortega, C. S. Raghavendra, "Efficient inter-band prediction and wavelet based compression for hyperspectral imagery: A distributed source coding approach," in Proc. IEEE Data Compression Conference (DCC) 2005.

Huisheng Wang, **Ngai-Man Cheung**, Antonio Ortega, "WZS: Wyner-Ziv scalable predictive video coding," in Proc. Picture Coding Symposium (PCS) 2004.

Ngai-Man Cheung and Yuji Itoh, "Configurable variable length code with genetic algorithms," in Proc. IEEE Int. Conf. Image Processing (ICIP), Rochester, NY, USA, 2002.

Ngai-Man Cheung and Yuji Itoh, "Configurable variable length code for video coding," in Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Salt Lake City, Utah, USA, 2001.

Yuji Itoh and **Ngai-Man Cheung**, "Inter-Chrominance Up-Sampling Algorithm for Color Image Processing," in Proc. Int. Conf. on Signal Processing Applications and Technology (ICSPAT), Dallas, TX, USA, October 2000.

Yuji Itoh and **Ngai-Man Cheung**, "Universal variable length code for DCT coding," in Proc. IEEE Int. Conf. Image Processing (ICIP), Vancouver, Canada, Sept. 10-13, 2000.

Posters

Ngai-Man Cheung, Sherif A. Halawa, Bernd Girod, "A Bag-of-words Approach to Slide Recognition and Its Deployment for Online Learning," Stanford University Electrical Engineering Research Fair, March 2010.

Sam Dolinar, Antonio Ortega, **Ngai-Man Cheung**, Ivy Tseng, Matt Klimesh, Hua Xie, "Distributed Source Coding for Lower Complexity Onboard Data Compression," NASA-JPL R&TD/DRDF poster session, Nov 2008.

Granted Patents

C.-Y. Hung, **Ngai-Man Cheung**, "Deblocking filters." US patent 8,111,760. 2012.

Y. Itoh, H.-C. Wey, **Ngai-Man Cheung**, "Motion estimation." US patent 7,720,151. 2010.

Ngai-Man Cheung, Y. Itoh, "Improved Transform Coefficients Coding for Video Coding." US patent 7158684. 2007.

Ngai-Man Cheung, Y. Itoh, "Fast Motion Estimation using Motion Mode Coherence." US patent 7113543. 2006.

Ngai-Man Cheung, H.-C. Wey, Yuji Itoh, "An Improved Fixed Point Implementation of Quantizer for Video Coding." US patent 7155472. 2006.

Yuji Itoh and **Ngai-Man Cheung**, "Joint Pre-/Post-Processing Approach for Chroma Misalignment Problem." US patent 7154557. 2006.

Ngai-Man Cheung, Y. Itoh, "Method and Apparatus for Automatic Configuration of the Universal Variable Length Code for Video Coding." US patent 6552674. 2003.

Standardizations

George Chen, **Ngai-Man Cheung**, Huisheng Wang, Joaquin Lopez, Antonio Ortega, "Using inter-view prediction for multi-view video compression," MPEG2004/m10512, March 2004 (collaborate with STMicroelectronics).

Ngai-Man Cheung, Y. Itoh, "Improving coefficients coding for H.26L Intra Picture," JVT (Joint Video Team of ISO/IEC MPEG and ITU-T VCEG) Document JVT-C086, Fairfax, US, May 2002.

Ngai-Man Cheung, Louis Kerofsky, Yuji Itoh, "Configurable entropy coding scheme for H.26L," ITU-T Study Group 16 Question 6 (Video Coding Experts Group), Document VCEG-L19, Eibsee, Germany, January 2001 (collaborate with Sharp Laboratories of America).

Talks

- **Ngai-Man Cheung**, "Distributed Source Coding and Its Application to Interactive Multiview Video Streaming."
 - HP Labs Palo Alto, CA, US. Hosted by Wai-Tian Tan. Sept 2009.
 - HP Labs Japan. Hosted by Gene Cheung. Apr 2009.
- **Ngai-Man Cheung**, "[Distributed Source Coding for Image and Video Applications](#)."
 - CUHK (Chinese University of Hong Kong). Hosted by Prof. King Ngai Ngan. Jul 2008.
 - Stanford University. Hosted by Prof. Bernd Girod. Jun 2008.
 - Hong Kong Polytechnic University. Hosted by Prof. S.-W. Siu. March 2008.
 - HKUST (Hong Kong University of Science and Technology). Hosted by Prof. Oscar Au. March 2008.
 - EPFL (Swiss Federal Institute of Technology at Lausanne, Switzerland). Hosted by Prof. Pascal Frossard. Nov 2007.
 - King's College, University of London. Hosted by Prof. Nikolaos Boulgouris. Oct 2007.
 - Imperial College London. Hosted by Prof. Pier Luigi Dragotti. Sept 2007.
- **Ngai-Man Cheung**, "[Tutorial on Distributed Image and Video Coding](#)."
 - UCLA (University of California, Los Angeles). In Prof. Mihaela van der Schaar's graduate course on multimedia communication. Jun/Dec 2006, Dec 2007.
- **Ngai-Man Cheung**, Huisheng Wang, Antonio Ortega, "[Distributed Video Coding Applications for Scalable and Flexible Decoding](#)."
 - Workshop on Recent Advances in Distributed Video Coding, Lisbon, Portugal. Nov 2007.
- **Ngai-Man Cheung**, "[Correlation Estimation for Distributed Video Coding](#)."
 - IBM T.J. Watson Research Center, Yorktown Heights, NY, US. Aug 2005.

Comments

You do not have permission to add comments.