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Contents

1   Research Interest

Systems support for multimedia applications: video streaming, graphics streaming, networked virtual environment.

2   Current Position

Associate Professor, National University of Singapore.

3   Appointments

2010-now	Associate Professor, National Univerity of Singapore.
2002-2009	Assistant Professor, National Univerity of Singapore.
2001-2002	Postdoctoral Research Engineer, University of California at Berkeley.
2001-2002	Fellow, National University of Singapore.
1996-2001	Senior Tutor, National University of Singapore.

4   Education

1992–1996	B.Sc. in Information Systems and Computer Science, National University of Singapore.
1996–2001	Ph.D. in Computer Science, Cornell University, Ithaca, New York.

5   Publications

Journal Articles

SENSORS   Padmanabha Venkatagiri Seshadri, Mun Choon Chan, Wei Tsang Ooi, and Jiahan Chiam, "On Demand Retrieval of CrowdSourced Mobile Video," IEEE Sensors Journal, PP(99), 8 July, Article 1 (Special Issue on Distributed Smart Sensing for Mobile Vision).

TOMC   Wei Wang, Ben Leong, and Wei Tsang Ooi, "Mitigating Unfairness due to Physical Layer Capture in Practical 802.11 Mesh Networks," IEEE Transactions on Mobile Computing, (), , .

TOMCCAP   Shanghong Zhao, Wei Tsang Ooi, Axel Carlier, Geraldine Morin, and Vincent Charvillat, "Bandwidth Adaptation for 3D Mesh Preview Streaming," ACM Transactions of Multimedia Computing, Communications and Applications, 10(1s), 1 January, Article 13 (Special issue of best papers of ACM MMSys 2013 and ACM NOSSDAV 2013).

TOMCCAP   Zhen Wei Zhao and Wei Tsang Ooi, "APRICOD: An Access Pattern-Driven Distributed Caching Middleware for Fast Content Discovery," ACM Transactions of Multimedia Computing, Communications and Applications, 9(2), 1 May, Article 15.

TOMCCAP   Zhen Wei Zhao, Sameer Samath, and Wei Tsang Ooi, "Modeling the Effect of User Interactions on Mesh-based P2P VOD Streaming Systems," ACM Transactions of Multimedia Computing, Communications and Applications, 9(2), 1 May, Article 13.

TOMCCAP Pavel Korshunov and Wei Tsang Ooi, "Video Quality for Face Detection, Recognition, and Tracking," ACM Transactions on Multimedia Computing, Communications and Applications, 7(3), 1 August, Article 14 (Nicolas D. Georganas Best Paper Award).

TOMCCAP Wei Cheng, Wei Tsang Ooi, Sebastien Mondet, Romulus Grigoras, and Geraldine Morin, "Modeling Progressive Mesh Streaming: Does Data Dependency Matter?," ACM Transactions on Multimedia Computing, Communications and Applications, 7(2), 1 February, Article 10 (Journal version of the MM'07 paper).

EJOR Tsung-Sheng Chang, Yat-Wah Wan, and Wei Tsang Ooi, "A Stochastic Dynamic Traveling Salesman Problem with Hard Time Windows," European Journal of Operational Research, 198(3), 1 November, 748-759.

MTAP Huiguang Liang, Ransi Nilaksha De Silva, Wei Tsang Ooi, and Mehul Motani, "Avatar Mobility in User-created Networked Virtual Worlds: Measurements, Analysis, and Implications," Multimedia Tools and Applications 45, 45(1-3), 1 October, 163-190.

TOMCCAP Sebastien Mondet, Wei Cheng, Géraldine Morin, Romulus Grigoras, Frederic Boudon, and Wei Tsang Ooi, "Compact and Progressive Plant Models for Streaming in Networked Virtual Environments," ACM Transactions on Multimedia Computing Communications and Applications, 5(3), 1 August, 1-22 (Journal version of the MM'08 best paper).

CSVT Hang Yu, Ee-Chien Chang, Wei Tsang Ooi, Mun Choon Chan, and Wei Cheng, "Integrated Optimization of Video Server Resource and Streaming Quality over Best-effort Network," IEEE Transactions on Circuits and Systems for Video Technology, 19(3), 1 March, 374-385.

COMNET Y.C. Tay, Dinh Nguyen Tran, E.Y. Liu, Wei Tsang Ooi, and Robert Morris, "Equilibrium Analysis Through Separation of User and Network Behavior," Computer Networks, 52(18), 1 December, 3405-3420.

Conference/Workshop Articles

MM'14 Axel Carlier, Lilian Calvet, Duong-Trung-Dung Nguyen, Wei Tsang Ooi, Pierrer Gurdjos, and Vincent Charvillat, "3D Interest Maps From Simultaneous Video Recordings," in the Proceedings of the 22nd ACM International Conference on Multimedia, Orlando, Florida, 3-7 November, 577-586.

NOSSDAV'14 Hui Wang, Vu-Thanh Nguyen, Wei Tsang Ooi, and Mun Choon Chan, "Mixing Tile Resolutions in Tiled Video: A Perceptual Quality Assessment," in the Proceedings of the 24th ACM Workshop on Network and Operating Systems Support for Digital Audio and Video, Singapore, 19-20 March, 25-30.

AVI'14 Chen Chen, Simon T. Perrault, Shengdong Zhao, and Wei Tsang Ooi, "BezelCopy: An Efficient Cross-Application Copy-Paste Technique for Touchscreen Smartphones," in the Proceedings of the International Working Conference on Advanced Visual Interfaces, Como, Italy, May 25-29, 185-192.

CloudCom'13 Manoranjan Mohanty, Wei Tsang Ooi, and Pradeep K. Atreyi, "Secure Cloud-Based Volume Ray-Casting," in the Proceedings of the IEEE 5th International Conference on Cloud Computing Technology and Science, Bristol, UK, 2-5 December, 531-538.

PM2HW2N'13 Hui Wang, Wei Tsang Ooi, and Mun Choon Chan, "Modeling CSMA/CA Network under Asymmetric Conditions," in the Proceedings of the 8th ACM workshop on Performance Monitoring and Measurement of Heterogeneous Wireless and Wired Networks, Barcelona, Spain, 11 November, 67-74.

MM'13 Zhen Wei Zhao and Wei Tsang Ooi, "Joserlin: Joint Request and Service Scheduling for Peer-to-Peer Non-linear Media Access," in the Proceedings of the 21st ACM International Conference on Multimedia, Barcelona, Spain, 21-25 October.

MICCAI'13 Sreetama Basu, Maria Kulikova, Elena Zhizhina, Wei Tsang Ooi, and Daniel Racoceanu, "A Stochastic Model for Automatic Extraction of 3D Neuronal Morphology," in the Proceedings of the 16th International Conference on Medical Image Computing and Computer-Assisted Intervention, Nagoya, Japan, 22-26 September.

ICME'13 Manoranjan Mohanty, Wei Tsang Ooi, and Pradeep K. Atreyi, "Scale Me, Crop Me, Know Me Not: Supporting Scaling and Cropping in Secret Image Sharing," in the Proceedings of the 2013 IEEE International Conference on Multimedia and Expo, San Jose, USA, 15-19 July.

SECON'13 Guoqing Yu, Wei Wang, Kim Leng Yong, Ben Leong, and Wei Tsang Ooi, "Adaptive Antenna Adjustment for 3D Urban Wireless Mesh Networks," in the Proceedings of the 10th IEEE International Conference on Sensing, Communication, and Networking, New Orleans, LA, 24-27 June.

MMSYS'13 Mukesh Kumar Saini, Padmanabha Venkatagiri Seshadri, Wei Tsang Ooi, and Mun Choon Chan, "The Jiku Mobile Video Dataset," in the Proceedings of the 4th ACM Multimedia Systems Conference, Oslo, Norway, 27 February - 1 March, 108-113.

MMSYS'13 Shanghong Zhao, Wei Tsang Ooi, Axel Carlier, Geraldine Morin, and Vincent Charvillat, "3D Mesh Preview Streaming," in the Proceedings of the 4th ACM Multimedia Systems Conference, Oslo, Norway, 27 February - 1 March, 178-189.

Mobiquitous'12 Padmanabha Venkatagiri Seshadri, Mun Choon Chan, and Wei Tsang Ooi, "Mobile-to-Mobile Video Recommendation," in the Proceedings of the 9th International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services, Beijing, China, 12-14 December (Short version of http://arxiv.org/abs/1211.2063).

PCM'12 Feipeng Liu and Wei Tsang Ooi, "Zoomable Video Playback on Mobile Devices by Selective Decoding," in the Proceedings of the 2012 Pacific-Rim Conference on Multimedia, Singapore, 4-6 December, 251-262.

PCM'12 Manoranjan Mohanty and Wei Tsang Ooi, "Streaming Histopathological Images," in the Proceedings of the 2012 Pacific-Rim Conference on Multimedia, Singapore, 4-6 December, 534-545.

MM'12 Mukesh Kumar Saini, Raghudeep Gadde, Shuicheng Yan, and Wei Tsang Ooi, "MoViMash: Online Mobile Video Mashups," in the Proceedings of the 20th ACM International Conference on Multimedia, Nara, Japan, 29 October - 2 November, 139-148.

MM'12 Bhojan Anand, Lee Kee Chong, Ee-Chien Chang, Mun Choon Chan, Akkihebbal L. Ananda, and Wei Tsang Ooi, "El-pincel: A Painter Cloud Service for Greener Web Pages," in the Proceedings of the 20th ACM International Conference on Multimedia, Nara, Japan, 29 October - 2 November, 399-408.

MMVE'12 Shervin Shirmohammadi, Shun-Yun Hu, Wei Tsang Ooi, Gregor Schiele, and Arno Wacker, "Mixing Virtual and Physical Participation: The Future of Conference Attendance?," in the Proceedings of the 5th International Workshop on Massively Multiuser Virtual Environments, Munich, Germany, 8 October.

NOSSDAV'12 Guntur Ravindra and Wei Tsang Ooi, "On Tile Assignment for Region-of-Interest Video Streaming in a Wireless LAN," in the Proceedings of the 22nd International Workshop on Network and Operating System Support for Digital Audio and Video, Toronto, Canada, 7-8

June.

AVI'12 Shengdong Zhao, Fanny Chevalier, Wei Tsang Ooi, Chee Yuan Lee, and Arpit Agarwal, "AutoComPaste: Auto-Completing Text as an Alternative to Copy-Paste," in the Proceedings of the International Working Conference on Advanced Visual Interfaces, Capri Island, Italy, 22 - 25 May, 365-372.

P2PNVE'11 Yu-Tan Huang, Chih-Ming Lin, Jehn-Ruey Jiang, Wei Tsang Ooi, Maha Abdallah, and Khaled Boussetta, "SYMA: A Synchronous Multihop Architecture for Wireless Ad Hoc Multiplayer Games," in the Proceedings of the 5th International Workshop on Peer-to-Peer Networked Virtual Environments, Tainan, Taiwan, 7-9 December, 793-798.

MM'11 Minhui Zhu, Sebastien Mondet, Géraldine Morin, Wei Tsang Ooi, and Wei Cheng, "Towards Peer-Assisted Rendering in Networked Virtual Environments," in the Proceedings of the 19th ACM International Conference on Multimedia, Scottsdale, AZ, 28 November - 1 December, 183-192.

MM'11 Ke Liang, Roger Zimmermann, and Wei Tsang Ooi, "Peer-Assisted Texture Streaming in Metaverses," in the Proceedings of the 19th ACM International Conference on Multimedia, Scottsdale, AZ, 28 November - 1 December, 203-212.

MM'11 Axel Carlier, Guntur Ravindra, Vincent Charvillat, and Wei Tsang Ooi, "Combining Content-based Analysis and Crowdsourcing to Improve User Interaction with Zoomable Video," in the Proceedings of the 19th ACM International Conference on Multimedia, Scottsdale, AZ, 28 November - 1 December, 43-52.

CODES +ISSS'11 Balaji Raman, Guillaume Quintin, Wei Tsang Ooi, Deepak Gangadharan, Jerome Milan, and Samarjit Chakraborty, "On Buffering with Stochastic Guarantees in Resource-Constrained Media Players," in the Proceedings of the 9th International Conference on Hardware/Software Codesign and System Synthesis, Taipei, Taiwan, 9-14 October, 169-178.

MMSYS'11 Ngo Quang Minh Khiem, Guntur Ravindra, and Wei Tsang Ooi, "Adaptive Encoding of Zoomable Video Streams based on User Access Pattern," in the Proceedings of the 2nd ACM Multimedia Systems Conference, Santa Clara, CA, 23-25 February, 211-222.

MM'10 Axel Carlier, Vincent Charvillat, Wei Tsang Ooi, Romulus Grigoras, and Geraldine Morin, "Crowdsourced Automatic Zoom and Scroll for Video Retargeting," in the Proceedings of the 18th ACM International Conference on Multimedia, Florence, Italy, 25-30 October, 201-211.

SAPMIA'10 Axel Carlier, Guntur Ravindra, and Wei Tsang Ooi, "Towards Characterizing Users' Interaction with Zoomable Video," in the Proceedings of the International Workshop on Social, Adaptive, and Personalized Multimedia Interaction and Access, Florence, Italy, 29 October.

NOSSDAV'10 Ransi Nilaksha De Silva, Wei Cheng, Wei Tsang Ooi, and Shengdong Zhao, "Towards Understanding User Tolerance to Network Latency and Data Rate in Remote Viewing of Progressive Meshes," in the Proceedings of the 20th International Workshop on Network and Operating System Support for Digital Audio and Video, Amsterdam, Netherlands, 2-4 June, 123-128.

MMSYS'10 Ngo Quang Minh Khiem, Guntur Ravindra, Axel Carlier, and Wei Tsang Ooi, "Supporting Zoomable Video Streams via Dynamic Region-of-Interest Cropping," in the Proceedings of the 1st ACM Multimedia Systems Conference, Scottsdale, AZ, 22-23 February, 259-270.

MMM'10 Pavel Korshunov and Wei Tsang Ooi, "Reducing Frame Rate for Object Tracking," in the Proceedings of the 16th International Conference on Advances in Multimedia Modeling, Chongqing, China, 6-8 January, 454-464.

P2PNVE'09   Mo-Che Chan, Jehn-Ruey Jiang, Chao-Wei Hung, and Wei Tsang Ooi, "Group-Based Peer-to-Peer 3D Streaming Authentication," in the Proceedings of the 3rd International Workshop on Peer-to-Peer Networked Virtual Environments, Shenzhen, China, 9-11 December.

P2PNVE'09   Markus Esch, Wei Tsang Ooi, Ingo Scholtes, and , "Evaluation Of The HyperVerse Avatar Management Scheme Based On The Analysis Of Second Life Traces," in the Proceedings of the 3rd International Workshop on Peer-to-Peer Networked Virtual Environments, Shenzhen, China, 9-11 December.

MM'09   Wei Cheng, Dan Liu, and Wei Tsang Ooi, "Peer-Assisted View-Dependent Progressive Mesh Streaming," in the Proceedings of the 17th ACM International Conference on Multimedia, Beijing, China, 19-24 October, 441-450.

P2PNVE'08   Huiguan Liang, Mehul Motani, and Wei Tsang Ooi, "Textures in Second Life: Measurement and Analysis," in the Proceedings of the 2nd International Workshop on Peer-to-Peer Networked Virtual Environments, Melbourne, Australia., 8-10 December, 823-828.

MM'08   Sebastien Mondet, Wei Cheng, Géraldine Morin, Romulus Grigoras, Frederic Boudon, and Wei Tsang Ooi, "Streaming of Plants in Distributed Virtual Environments," in the Proceedings of the 16th ACM International Conference on Multimedia, Vancouver, Canada, 27-31 October, 1-10 (Best Paper).

NOSSDAV'08   Wei Cheng and Wei Tsang Ooi, "Receiver-Driven View-Dependent Streaming of Progressive Mesh," in the Proceedings of the 18th International Workshop on Network and Operating System Support for Digital Audio and Video, Braunschweig, Germany, 28-30 May, 9-14.

MM'07   Wei Cheng, Wei Tsang Ooi, Sebastian Mondet, Romulus Grigoras, and Geraldine Morin, "An Analytical Model for Progressive Mesh Streaming," in the Proceedings of the 15th ACM International Conference on Multimedia, Augsburg, Germany, 24-29 September, 737-746.

DAC'07   Balaji Raman, Samarjit Chakraborty, Wei Tsang Ooi, and Santanu Dutta, "Reducing Data-Memory Footprint of Multimedia Applications by Delay Redistribution," in the Proceedings of the 44th Design Automation Conference, San Diego, CA, 4-8 June, 738-743.

INFOCOM'07   Lin Ma and Wei Tsang Ooi, "Congestion Control in Distributed Media Streaming," in the Proceedings of the 26th Annual IEEE Conference on Computer Communications, Anchorage, Alaska, 6-12 May, 1397-1405.

MMCN'07   Tao Zhu, Pavel Korshunov, Bing Liu, and Wei Tsang Ooi, "Plasma: A Scripting Language for Processing Media Streams," in the Proceedings of the ACM/SPIE Multimedia Computing and Networking, San Jose, CA, 28 January - 1 February.

MOBICOM'06   Vikram Srinivasan, Mehul Motani, and Wei Tsang Ooi, "Analysis and Implications of Student Contact Patterns Derived from Campus Schedules," in the Proceedings of the 20th Annual ACM International Conference on Mobile Computing and Networking, Los Angeles, CA, 23-29 September, 86-97.

DAC'06   Yan Gu, Samarjit Chakraborty, and Wei Tsang Ooi, "Games are Up for DVFS," in the Proceedings of the 43rd Design Automation Conference, San Francisco, CA, 24-28 July, 598-603.

PAM'06   Dinh Nguyen Tran, Wei Tsang Ooi, and Y.C. Tay, "SAX: A Tool for Studying Congestion-induced Surfer Behavior," in the Proceedings of the Passive and Active Measurement Conference, Adelaide, Australia, 30-31 March, 51-60.

MM'05   Pavel Korshunov and Wei Tsang Ooi, "Critical Video Quality for Distributed Automated

ICCCN'05 Video Surveillance," in the Proceedings of the 13th ACM International Conference on Multimedia, Singapore, 6-12 November, 151-160.

ICCCN'05 Yan Gu and Wei Tsang Ooi, "Packetization of 3D Progressive Meshes for Streaming over Lossy Networks," in the Proceedings of the 14th International Conference on Computer Communications and Networks, San Diego, CA, 17-19 October (Best Paper Candidate).

ESTIMedia'05 Yanhong Liu, Samarjit Chakraborty, Wei Tsang Ooi, Ashish Gupta, and Subramanian Mohan, "Workload Characterization and Cost-Quality Tradeoffs in MPEG-4 Decoding on Resource-Constrained Devices," in the Proceedings of the IEEE 3rd Workshop on Embedded Systems for Real-Time Multimedia, New York, NY, 22-23 September, 129-134.

DAC'05 Yanhong Liu, Samarjit Chakraborty, and Wei Tsang Ooi, "Approximate VCCs: A New Characterization of Multimedia Workloads for System-level MpSoC Design," in the Proceedings of the 42th Design Automation Conference, Anaheim, CA, 13-17 June, 248-253 (Best Paper Candidate).

ICDCS'05 Satish Verma and Wei Tsang Ooi, "Controlling Gossip Protocol Infection Pattern Using Adaptive Fanout," in the Proceedings of the 25th International Conference on Distributed Computing Systems, Columbus, OH, 6-9 June, 665-674.

NOSSDAV'05 Lin Ma and Wei Tsang Ooi, "Retransmission in Distributed Media Streaming," in the Proceedings of the 15th International Workshop on Network and Operating System Support for Digital Audio and Video, Stevenson, WA, 12-14 June, 117-122.

NOSSDAV'05 Balaji Raman, Samarjit Chakraborty, and Wei Tsang Ooi, "Meeting CPU Constraints by Delaying Playout of Multimedia Tasks," in the Proceedings of the 15th International Workshop on Network and Operating System Support for Digital Audio and Video, Stevenson, WA, 12-14 June, 165-170.

MMCN'05 Wei Tsang Ooi, "Dagster: Contributor Aware End-Host Multicast for Media Streaming in Heterogeneous Environment," in the Proceedings of the ACM/SPIE Multimedia Computing and Networking, San Jose, CA, 19-20 January.

RTSS'04 Yanhong Liu, Alexander Maxiaguine, Samarjit Chakraborty, and Wei Tsang Ooi, "Processor Frequency Selection in Energy-Aware SoC Platform Design for Multimedia Applications," in the Proceedings of the 25th IEEE International Real-Time Systems Symposium, Lisbon, Portugal, 5-8 December, 336-345.

ESTIMedia'04 Alexander Maxiaguine, Yanhong Liu, Samarjit Chakraborty, and Wei Tsang Ooi, "Identifying Representative Workloads in Designing MpSoC Platforms for Media Processing," in the Proceedings of the 2nd Workshop on Embedded Systems for Real-Time Multimedia, Stockholm, Sweden, 6-7 September, 41-46.

ICME'04 Zixiang Yang, Wei Tsang Ooi, and Qibin Sun, "Hierarchical Non-uniform Locality Sensitive Hashing and Its Application to Video Identification," in the Proceedings of the 2004 IEEE International Conference on Multimedia and Expo, Taipei, Taiwan, 27-30 June, 743-746.

ICME'04 Yuan Li and Wei Tsang Ooi, "Distributed Construction of Resource-Efficient Overlay Tree by Approximating MST," in the Proceedings of the 2004 IEEE International Conference on Multimedia and Expo, Taipei, Taiwan, 27-30 June, 1507-1510.

ICME'04 Vu Thanh Nguyen, Ee-Chien Chang, and Wei Tsang Ooi, "Layered Coding with Good Allocation Outperforms Multiple Description Coding over Multiple Paths," in the Proceedings of the 2004 IEEE International Conference on Multimedia and Expo, Taipei, Taiwan, 27-30 June, 1067-1070.

MMCN'04 Wei Tsang Ooi, Peter Pletcher, and Larry Rowe, "Indiva: A Middleware for Managing Dis-

tributed Media Environment," in the Proceedings of the SPIE/ACM Multimedia Computing and Networking, Santa Clara, CA, 21-22 January.

MM'01 Wei Tsang Ooi and Robbert van Renesse, "Distributing Media Transformation Over Multiple Media Gateways," in the Proceedings of the 9th ACM International Conference on Multimedia, Ottawa, Canada, 30 September - 5 October, 159-168.

MM'00 Wei Tsang Ooi and Robbert van Renesse, "An Adaptive Protocol for Locating Media Gateways," in the Proceedings of the 8th ACM International Conference on Multimedia, Los Angeles, CA, 30 October-3 November, 137-145.

NOSSDAV'00 Wei Tsang Ooi, Robbert van Renesse, and Brian Smith, "Design and Implementation of Programmable Media Gateways," in the Proceedings of the 10th International Workshop on Network and Operating System Support for Digital Audio and Video, Chapel Hill, NC, 26-28 June.

MMCN'99 Wei Tsang Ooi and Brian Smith et al., "Dali: A Multimedia Software Library," in the Proceedings of the 1999 SPIE Multimedia Computing and Networking, San Jose, CA, 25-27 January.

MMSP'98 Wei Tsang Ooi, Brian Smith, Sugata Mukhopadhyay, Haye Hsi Chen, Steven Weiss, Matthew Chiu, and Jiesang Song, "The Dali Multimedia Software Library," in the Proceedings of the 2nd IEEE Workshop on Multimedia Signal Processing, Los Angeles, CA, 7-9 December, 329-334 (Short version of MMCN'99 paper).

Conference/Workshop Short Papers

MM'12 Manoranjan Mohanty, Pradeep K. Atrey, and Wei Tsang Ooi, "Secure Cloud-based Medical Data Visualization," in the Proceedings of the 20th ACM International Conference on Multimedia, Nara, Japan, 29 October - 2 November, 1105-1108.

MM'11 Zhen Wei Zhao and Wei Tsang Ooi, "APRICOD: A Distributed Caching Middleware for Fast Content Discovery of Non-Continuous Media Access," in the Proceedings of the 19th ACM International Conference on Multimedia, Scottsdale, AZ, 28 November - 1 December, 1241-1244.

MM'11 Ngo Quang Minh Khiem, Guntur Ravindra, and Wei Tsang Ooi, "Towards Understanding User Tolerance to Network Latency in Zoomable Video Streaming," in the Proceedings of the 19th ACM International Conference on Multimedia, Scottsdale, AZ, 28 November - 1 December, 977-980.

ICNP'11 Wei Wang, Ben Leong, and Wei Tsang Ooi, "Understanding and Mitigating TCP Starvation in 802.11 Wireless Mesh Networks," in the Proceedings of the 19th IEEE International Conference on Network Protocols, Vancouver, Canada, 17-20 October, 121-122.

MM'09 Ransi Nilaksha De Silva, Wei Cheng, Dan Liu, Wei Tsang Ooi, and Shengdong Zhao, "Towards Characterizing User Interaction with Progressively Transmitted 3D Meshes," in the Proceedings of the 17th ACM International Conference on Multimedia, Beijing, China, 19-24 October, 881-884.

Conference/Workshop Demos

MM'13 Duong-Trung-Dung Nguyen, Mukesh Saini, Vu-Thanh Nguyen, and Wei Tsang Ooi, "Jiku

MM'12 and later entries:

Director: A Mobile Video Mashup System," in the Proceedings of the 21st ACM International Conference on Multimedia, Barcelona, Spain, 21-25 October, (Best Demo Award).

MM'12 Arash Shafiei, Guntur Ravindra, Ngo Quang Minh Khiem, Wei Tsang Ooi, Mukesh Kumar Saini, and Cong Pang, "Jiku Live: Live Zoomable Video Streaming," in the Proceedings of the 20th ACM International Conference on Multimedia, Nara, Japan, 29 October - 2 November, 1265-1266.

MM'11 Axel Carlier, Arash Shafiei, Julien Badie, Salim Bensiali, and Wei Tsang Ooi, "COZI: Crowdsourced and Content-based Zoomable Video Player," in the Proceedings of the 19th ACM International Conference on Multimedia, Scottsdale, AZ, 28 November - 1 December, 829-830.

MM'09 Andra Doran, Sebastien Mondet, Romulus Grigoras, Geraldine Morin, Wei Tsang Ooi, and Frederick Boudon, "A Demonstration of MobiTree: Progressive 3D Tree Models Streaming on Mobile Clients," in the Proceedings of the 17th ACM International Conference on Multimedia, Beijing, China, 19-24 October, 955-956.

Thesis

Design and Implementation of Distributed Programmable Media Gateways
Wei Tsang Ooi, Ph.D. Thesis, August 2001.

Books

Rajeev Shorey, A. Ananda, Mun Choon Chan, **Wei Tsang Ooi**, "Mobile, Wireless, and Sensor Networks: Technology, Applications, and Future Directions,", Wiley-IEEE Press, ISBN 978-047178161, March 2006.

Patent

Brian Smith, **Wei Tsang Ooi**, "Web-based video-editing method and system using a high-performance multimedia software library," U.S. Patent 6,320,600.

Others

Ooi Wei Tsang, Tan Tuck Choy, "A Survey on Awareness and Attitudes towards Plagiarism among Computer Science Freshmen", CDTLink, November 2005, Vol. 9, No. 3.

Ooi Wei Tsang, "Avoiding 'Death by PowerPoint' and Its Impact on Teaching and Learning", CDTLink, August 2007, Vol. 11, No. 2.

6 Grants

PI

2013 "Secure and Efficient Remote 3D Rendering,"

AcRF Grant, Jan 2013 – Dec 2015, $109,500.

2010 "Fast Rendering of 3D Objects on Mobile Devices,"
MDA-GAMBIT, Jan 2010 – Dec 2010, $88,320.

2008-2010 "Magnifiable Media Streaming,"
AcRF Grant, Dec 2008 – Dec 2010, $297,600, R-252-000-368-112.

2007-2009 "3D Object Streaming,"
$71,000, AcRF Grant, Sep 2007 – Sep 2009, R-252-000-306-112.

2005-2007 "Goal-Oriented Video Streaming,"
$87,800, AcRF Grant, Aug 2005 – Aug 2007, R252-000-230-112.

2002-2003 "Towards A System for Distributed Processing of RTP-based Multimedia Streams,"
$16,520, AcRF Start-up grant, Nov 2002 – Nov 2003, R252-000-133-112.

Co-PI

2010-2015 "NExT Search Center" $10,000,000 NRF/MDA Grant, May 2010 – May 2015, (PI: Tat Seng Chua)

2012-2014 "AutoComPaste and Eye-Copy: Enabling Efficient Information Gathering via Innovative Interaction Techniques"
$126,600 AcRF Grant, Jan 2012 – Dec 2014, R-252-000-464-112, (PI: Shengdong Zhao)

2007-2009 "Deployment and Evaluation of an Unplanned 802.11x Wireless Mesh Network,"
$102,000, AcRF Grant, Sep 2007 – Sep 2009, R-252-000-311-112, (PI: Ben Leong)

2004-2006 "A System for Remote Monitoring,"
$75,500, AcRF Grant, Jan 2004 - Jan 2006, R252-000-182-112, (PI: Ee-Chien Chang).

2004-2005 "A Model for Analyzing the Interaction between Bandwidth Demand and Supply,"
$55,000, AcRF Grant, Feb 2004 - Feb 2005, (PI: Y.C. Tay).

2002 Equipment Fund for Research FY 2002, awarded Jan 2003, $200K. (PI: Pung Hung Keng)

Collaborators

2010-2012 Collaborator for MOE IF Grant, $310,600, "Teacher-Customisable Onlien Game Profiler of Learning Styles", MOE2009-IF-1-036.

2005 Collaborator for ARF Grant, (ICITI) $122,000, "PeopleNet: Design and Analysis of a Wireless Virtual Social Network".

7 Awards

Teaching Awards

2013 School of Computing Teaching Excellence Award
2012 School of Computing Teaching Excellence Award
2008 National University of Singapore Annual Teaching Excellence Award
2008 School of Computing Teaching Excellence Award
2006 School of Computing Teaching Excellence Award

Research Awards

2013 Best Demo, ACM Multimedia 2013
2012 ACM TOMCCAP Nicolas D. Georganas Best Paper Award 2011
2008 Best Paper, ACM Multimedia 2008
2006 Best Paper Candidate, CODES+ISS
2005 Best Paper Candidate, IEEE Design Automation Conference (DAC)
2005 Best Paper Candidate, ICCCN
2004 Among 20 winners of IBM Linux Scholar Challenge

8 Teaching

2014 CS3201/2 Thematic Systems Project
2012-2015 CS4344 Networked and Mobile Games
2012 FMC1203 Computationl Thinking
2011-2014 CS2105 Introduction to Computer Networks
2010-2011 CS2106 Introduction to Operating Systems
2007-2009 CS5229 Advanced Computer Networks
2006-2009 CS4344 Networked and Mobile Games
2005-2006 CS2105 Introduction to Computer Networks
2004-2005 CS3233 Competitive Programming

2003-2006 CS5248 Systems Support for Continuous Media
2003-2004 CS2281 UNIX Programming
2002-2003 CS1102 Data Structure and Algorithms

9 Graduated Students

2014 Shanghong Zhao, Ph.D., Garena, Singapore
Thesis: 3D Mesh Preview Streaming

2013 Manoranjan Mohanty, Ph.D., SICS, Sweden
Thesis: Secret Sharing Approach for Securing Cloud-based Image Processing

2013 Cong Pang, M.Sc., Singapore
Thesis: Supporting Arbitrary Zoom in Zoomable Video

2013 Zhwnwei Zhao, Ph.D., Tapi Data Solutions (CTO & Co-Founder), Singapore
Thesis: Supporting Non-Linear and Non-Continuous Media Access in Peer-to-Peer Multimedia Systems

2012 Luo Yan, M.Sc., Microsoft, Seattle, USA
Thesis: Zoomable Video Streaming over HTTP

2012 Jinyu Xu, M.Sc., Industrial Bank, China
Thesis: Multipath Routing in Wireless Mesh Network

2012 Chanaka Aruna Munasinghe, M.Sc., Sri Lanka
Thesis: Proxy Caching for Textures in Second Life

2012 Feipeng Liu, M.Comp., Singapore
Thesis: Zoomable Video Playback on Mobile Devices by Selective Decoding

2011 Pavel Korshunov, Ph.D., EPFL, Switzerland
Thesis: Video Quality for Video Analysis

2010 Satish Verma, Ph.D., Samsung, Korea.
Thesis: Techniques for Improving the Predictability and Message Efficiency of Gossip Protocols

2010 Balaji Raman[1], Ph.D., Ecole Polytechnique, France.
Thesis: Application-specific Workload Shaping in Resource-Constrained Media Players

2010 Wei Cheng, Ph.D., Garena
Thesis: Streaming of High-Resolution Progressive Meshes Over the Internet

2008 Ma Lin, Ph.D., Macquarie Bank, Singapore.
Thesis: Protocols and Techniques for Multi-source Streaming.

2007 Liu Yanhong[2], Ph.D., Verimag, France.
Thesis: System-level Modeling and Analysis of Multimedia-SoC Platforms.

2005 Pham Viet Thang[3], M.Sc., Oracle, Vietnam.
Thesis: Quality-driven Sensor Selection in Target Tracking

2004 Li Qingrui, M.Sc., ST Microelectronics, Singapore
Thesis: Modified Work Stealing for Distributed Processing of Multimedia Streams on a Cluster.

2004 Li Yuan, M.Sc., IBM, China.
Thesis: Distributed Construction of Minimum Spanning Tree on an Overlay Network

2004 Wang Na, M.Sc., Motorola, China.
Thesis: Efficient Classification of RTP Packets.

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[1]co-supervision with Samarjit Chakraborty
[2]co-supervision with Samarjit Chakraborty
[3]co-supervision with Jit Biswas, I^2R

10   Professional Services

Steering Committee

MMVE   International Workshop on Massively Multiuser Virtual Environments (2009 - now)

Conference Chair/Co-Chair

2015   The 6th ACM International Conference on Multimedia Systems (MMSys 2015)

Workshop Co-Chair

2012   The 1st International Workshop on Crowdsourcing for Multimedia (CrowdMM 2012)

2009   The 2nd International Workshop on Massively Multiuser Virtual Environments (MMVE 2009)

2009   The 19th International Workshop on Network and Operating System Support for Digital Audio and Video (NOSSDAV 2009)

Technical Program Co-Chair

2014   The 15th Annual Pacific-Rim Conference on Multimedia (PCM 2014)

2014   The 5th ACM International Conference on Multimedia Systems (MMSys 2014)

2011   The 10th Annual Workshop on Network and Systems Support for Games (NetGames 2010)

Treasurer

2005   ACM International Conference on Multimedia

Registration Chair

2005   ACM International Conference on Multimedia

Open Source Competition Co-Chair

2011   ACM International Conference on Multimedia

Tutorial Co-Chair

2014   ACM International Conference on Multimedia

Session Chair

2008 International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV)
2008 ACM International Conference on Multimedia (MM)
2007 ACM International Conference on Multimedia (MM)
2007 ACM/SPIE Multimedia Computing and Networking (MMCN)
2005 ACM/SPIE Multimedia Computing and Networking (MMCN)
2004 International Workshop on Advanced Image Technology (IWAIT)
2004 International Conference on Networks (ICON)

Publicity Co-Chair

2008 ACM/SPIE Multimedia Computing and Networking (MMCN)
2007 ACM/SPIE Multimedia Computing and Networking (MMCN)
2007 International Workshop on Network and Operating System Support for Digital Audio and Video (NOSSDAV)
2006 ACM/SPIE Multimedia Computing and Networking (MMCN)

Program Committee Members

2014 ACM International Conference on Mutimedia (MM)
2013
       ACM Multimedia Systems (MMSys)
2013 Workshop on Network and Systems Support for Games (NetGames)
2013 ACM International Conference on Mutimedia (MM) (Area Co-Chair, Crowdsourcing for Multimedia)

2012 IEEE International Conference on Parallel and Distributed Systems (ICPADS)
2012 Workshop on Network and Systems Support for Games (NetGames)
2012 International Multimedia Modeling Conference (MMM)
2012 ACM Multimedia Systems (MMSys)
2012 ACM International Conference on Mutimedia (MM)
2012 International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV)

2011 ACM Multimedia Systems (MMSys)
2011 IEEE International Conference on Multimedia and Expo (ICME) (Track Co-Chair, Interaction 3D Media and Immersive Environments)
2011 ACM International Conference on Mutimedia (MM) (Area Co-Chair, Multimedia Systems and Middleware)
2011 The 6th International Conference on Foundations of Digital Games (FDG)
2011 International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV)

2011 The 5th International Workshop on Peer-to-Peer Networked Virtual Environments (P2P-NVE)

2010 ACM International Conference on Multimedia (MM) (Meta TPC Member)
2010 ACM Multimedia Systems (MMSys)
2010 International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV)
2010 Workshop on Network and Systems Support for Games (NetGames)
2010 The 4th International Workshop on Peer-to-Peer Networked Virtual Environments (P2P-NVE)

2009 ACM International Conference on Multimedia (MM)
2009 ACM/SPIE Multimedia Computing and Networking (MMCN)
2009 International Multimedia Modeling Conference (MMM)
2009 Workshop on Network and Systems Support for Games (NetGames)
2009 The 3rd International Workshop on Peer-to-Peer Networked Virtual Environments (P2P-NVE)

2008 ACM International Conference on Multimedia (MM)
2008 ACM/SPIE Multimedia Computing and Networking (MMCN)
2008 International Multimedia Modeling Conference (MMM)
2008 International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV)
2008 Workshop on Network and Systems Support for Games (NetGames)
2008 Passive and Active Measurement Conference (PAM)
2008 The 2nd International Workshop on Peer-to-Peer Networked Virtual Environments (P2P-NVE)

2007 ACM International Conference on Multimedia (MM)
2007 ACM/SPIE Multimedia Computing and Networking (MMCN)
2007 International Workshop on Network and Operating System Support for Digital Audio and Video (NOSSDAV)
2007 Workshop on Network and Systems Support for Games (NetGames)
2007 International Multimedia Modeling Conference (MMM) (Area Chair)
2007 IEEE International Conference on Multimedia and Expo (ICME)
2007 IEEE International Symposium on Multimedia (ISM)
2007 IEEE International Symposium on a World of Wireless Mobile and Multimedia Networks (WoWMoM)

2006 ACM International Conference on Multimedia (MM)
2006 ACM/SPIE Multimedia Computing and Networking (MMCN)
2006 International Workshop on Network and Operating System Support for Digital Audio and Video (NOSSDAV)
2006 IEEE International Conference on Multimedia and Expo (ICME)
2006 IEEE International Symposium on a World of Wireless Mobile and Multimedia Networks

(WoWMoM)

2005 ACM International Conference on Multimedia (MM)

2005 ACM/SPIE Multimedia Computing and Networking (MMCN)

2005 International Workshop on Network and Operating System Support for Digital Audio and Video (NOSSDAV)

2005 IEEE International Conference on Multimedia and Expo (ICME)

2005 IEEE International Symposium on a World of Wireless Mobile and Multimedia Networks (WoWMoM)

2004 ACM International Conference on Multimedia (MM)

2004 IEEE International Conference on Multimedia and Expo (ICME)

2004 IEEE International Conference on Distributed Computing Systems (ICDCS)

2004 International Workshop on Broadband Wireless Multimedia: Algorithms, Architectures and Applications (BroadWIM)

2003 ACM International Conference on Multimedia (MM)

2003 International World Wide Web Conference (WWW)

Editor Board Member

2006-now Academy Publisher, Journal of Multimedia (JMM)

2008-now Inderscience Publisher, Journal of Advanced Media and Communication (IJAMC)

Journal Reviewers

IEEE Journal on Selected Areas in Communications
IEEE Transaction of Multimedia
IEEE Transactions on Circuits and Systems for Video Technology
IEEE Network
ETRI Journal
ACM/Springer Multimedia Systems Journal
ACM Transaction of Multimedia Computing, Communications and Applications
Journal of System and Software

Guest Co-Editor

2014 ACM Transaction of Multimedia Computing, Communications and Applications: Special Issue on Best Papers from ACM MMSys/NOSSDAV 2014

2013 ACM/Springer Multimedia Systems Journal: Special Issue on NOSSDAV 2009

2012 ACM Transaction of Multimedia Computing, Communications and Applications: Special Issue on Best Papers from ACM Multimedia 2011

2012 ACM Transaction of Multimedia Computing, Communications and Applications: Special

Issue on 3D Mobile Multimedia

2009 ACM/Springer Multimedia Systems Journal: Special Issue on NOSSDAV 2009

2008 IEEE Transactions on Multimedia: Special Issue on Multimedia Applications in Mobile/Wireless Context

11   University Services

2014-now   Currculum Chair (Department of Computer Science)

2009-2014   Assistant Currculum Chair (Department of Computer Science)

2007   Honorary Secretary, Algo*Mania

2007-2012   USENIX Campus Representative

2005-2011   Honorary Secretary, National Olympiad in Informatics (NOI)

2005-now   Member of HYP Committee

2003-2009   Member of Graduate Studies Committee