

# Cheng-Hsin Hsu

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RESEARCH INTERESTS	Multimedia networking, immersive video, Internet-of-Things (IoT), smart-space, distributed systems, networked games, cloud/fog computing, mobile computing, broadcast/wireless networks, and computer networks	
EXPERIENCE	<b>National Tsing Hua University</b> , Hsin Chu, Taiwan	
	<i>Professor</i>	<b>August 2021 to Present</b>
	<i>Associate Professor</i>	<b>August 2014 to July 2021</b>
	<i>Assistant Professor</i>	<b>August 2011 to July 2014</b>
	<b>University of California</b> , Irvine, California, USA	
	<i>Lecturer</i>	<b>January 2019 to March 2019</b>
	<i>Research Scholar / Visiting Associate Researcher</i>	<b>August 2018 to June 2019</b>
	<i>Visiting Assistant Researcher</i>	<b>July 2013 to September 2013</b>
	<b>University of Illinois</b> , Urbana-Champaign, Illinois, USA	
	<i>Visiting Scholar</i>	<b>January 2016 to February 2016</b>
	<b>Qatar Computing Research Institute</b> , Doha, Qatar	
	<i>Visiting Research Consultant</i>	<b>July 2014 to August 2014</b>
	<b>Deutsche Telekom, Inc., R&amp;D Lab USA</b> , Los Altos, California, USA	
	<i>Senior Research Scientist</i>	<b>December 2009 to July 2011</b>
	<b>Simon Fraser University</b> , Burnaby, British Columbia, Canada	
	<i>Research Assistant</i>	<b>Spring 2006 to November 2009</b>
	<i>Teaching Assistant</i>	<b>Fall 2005 to Spring 2006</b>
	<i>MITACS Intern</i>	<b>Spring 2007</b>
	<b>Motorola Inc.</b> , Champaign, Illinois, USA	
	<i>Senior Network Engineer</i>	<b>January 2005 to July 2005</b>
	<b>Lucent Technologies</b> , Landover, Maryland, USA	
	<i>Member of Technical Staff</i>	<b>April 2001 to January 2005</b>
EDUCATION	<b>Simon Fraser University</b> , Surrey, British Columbia, Canada	
	Ph.D, School of Computing Science, November 2009	
	• Advisor: Prof. Mohamed Hefeeda	
	• Thesis: <i>Efficient Mobile Multimedia Streaming</i>	

**University of Maryland**, College Park, Maryland, USA

M.Eng., Department of Electrical and Computer Engineering, August 2003

**National Chung Cheng University**, Chia Yi, Taiwan

M.S., Department of Computer Science and Information Engineering, August 2000

- Advisor: Prof. Daniel J. Buehrer
- Thesis: Making Java Applications Run Remotely

B.S., Department of Mathematics, June 1996

JOURNAL AND  
MAGAZINE  
ARTICLES

- [1] C. Hsu, Y. Li, C. Tsai, J. Wang, and C. Hsu, “Federated learning using multi-modal sensors with heterogeneous privacy sensitivity levels,” *ACM Transactions on Multimedia Computing, Communications, and Applications*, July 2024, Accepted to Appear.
- [2] K. Lee, A. Singla, P. Cesar, and C. Hsu, “Adaptive cloud VR gaming optimized by gamer QoE models,” *ACM Transactions on Multimedia Computing, Communications, and Applications*, July 2024, Accepted to Appear.
- [3] C. Wu, C. Hsu, T. Hung, C. Griwodz, W. Ooi, and C. Hsu, “Quantitative comparison of point cloud compression algorithms with PCC Arena,” *IEEE Transactions on Multimedia*, vol. 25, pp. 3073–3088, 2023.
- [4] C. Hsu, T. Hung, and C. Hsu, “Optimizing immersive video coding configurations using deep learning: A case study on TMIV,” *ACM Transactions on Multimedia Computing, Communications, and Applications*, vol. 18, no. 1, pp. 19:1–19:25, January 2022.
- [5] C. Fan, T. Hung, and C. Hsu, “Modeling the user experience of watching 360° videos with head-mounted displays,” *ACM Transactions on Multimedia Computing, Communications, and Applications*, vol. 18, no. 1, pp. 3:1–3:23, January 2022.
- [6] P. Venkateswaran, K. Benson, C. Hsieh, C. Hsu, S. Mehrotra, and N. Venkatasubramanian, “REAM: A framework for resource efficient adaptive monitoring of community spaces,” *Elsevier Pervasive and Mobile Computing*, vol. 76, pp. 101459:1–101459:19, September 2021.
- [7] M. Tsai, N. Venkatasubramanian, and C. Hsu, “Multi-level feature driven storage management of surveillance videos,” *Elsevier Pervasive and Mobile Computing*, June 2021, vol. 76, pp. 101441:1–101441:21, September 2021.
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- [10] C. Fan, S. Yen, C. Huang, and C. Hsu, “Optimizing fixation prediction using recurrent neural networks for 360° video streaming in head-mounted virtual reality,” *IEEE Transactions on Multimedia*, vol. 22, no. 3, pp. 744–759, March 2020.

- [11] C. Fan, W. Lo, Y. Pai, and C. Hsu, “A survey on 360° video streaming: acquisition, transmission, and display,” *ACM Computing Surveys*, vol. 52, no. 4, pp. 71:1–71:36, September 2019.
- [12] M. Rahman, A. Rahman, H. Hong, L. Pan, M. Uddin, N. Venkatasubramanian, and C. Hsu, “An adaptive IoT platform on budgeted 3G data plans,” *Elsevier Journal of Systems Architecture*, vol. 97, pp. 65–76, August 2019.
- [13] I. Ali, R. Chang, and C. Hsu, “SOQAS: Distributively finding high-quality answerers in dynamic social networks,” *IEEE Access*, vol. 6, pp. 55074–55089, September 2018.
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PAPERS

- [1] H. Chiang, G. Li, F. Wang, S. Shirmohammadi, and C. Hsu, “Enhancing skeletal pose estimation from mmWave point clouds through uncertainty reduction,” in *Proc. of ACM International Workshop on Human-Centric Multimedia Analysis (HCMA’24)*, Melbourne, Australia, October 2024.
- [2] R. Rahman, C. Lin, C. Hsu, and N. Venkatasubramanian, “A measurement-informed approach to modeling underground IoT communications,” in *Proc. of IEEE Vehicular Technology Conference (VTC’24-Fall)*, Washington, DC, October 2024.
- [3] M. Zhu, Y. Sun, N. Li, J. Zhou, S. Chen, C. Hsu, and Y. Liu, “Dynamic 6-DoF volumetric video generation: Software toolkit and dataset,” in *Proc. of IEEE International Workshop on Multimedia Signal Processing (MMSP’24)*, West Lafayette, IN, October 2024.
- [4] Y. Wei, Y. Sun, S. Zheng, H. Hsu, C. Huang, and C. Hsu, “Mitigating privacy threats without degrading visual quality of VR applications: Using re-identification attack as a case study,” in *Proc. of IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR’24)*, San Jose, CA, August 2024.
- [5] Y. Sun, Y. Shi, W. Ooi, C. Huang, and C. Hsu, “Multi-frame bitrate allocation of dynamic 3D Gaussian splatting streaming over dynamic networks,” in *Proc. of ACM SIGCOMM Workshop on Emerging Multimedia Systems (EMS’24)*, Sydney, Australia, August 2024, **Best Paper Award**.

- [6] Y. Li, F. Liu, C. Hsu, and N. Venkatasubramanian, “AMPHI: Adaptive mission-aware microservices provisioning in heterogeneous IoT settings,” in *Proc. of IEEE International Conference on Smart Computing (SMARTCOMP’24)*, Osaka, Japan, June 2024.
- [7] G. Li, H. Chiang, Y. Li, S. Shirmohammadi, and C. Hsu, “A driver activity dataset with multiple RGB-D cameras and mmWave radars,” in *Proc. of ACM SIGMM Conference on Multimedia Systems (MMSys’24)*, Bari, Italy, April 2024, Dataset Paper, pp. 360–366.
- [8] G. Shi, C. Wu, and C. Hsu, “Error concealment of dynamic LiDAR point clouds for connected and autonomous vehicles,” in *Proc. of IEEE Global Communications Conference (GLOBECOM’23)*, Kuala Lumpur, Malaysia, December 2023, pp. 5409–5415.
- [9] C. Wu, R. Rahman, C. Hsu, C. Lai, N. Venkatasubramanian, and C. Hsu, “Evaluating subsurface single-hop WiFi and LoRa networks for internet of underground things,” in *Proc. of IEEE International Workshop on Unconventional IoT Applications (Un-IoT’23)*, Kuala Lumpur, Malaysia, December 2023, pp. 702–707.
- [10] S. Tang, Y. Sun, and C. Hsu, “A blind streaming system for multi-client online 6-DoF view touring,” in *Proc. of ACM International Conference on Multimedia (Multimedia’23)*, Ottawa, Canada, October 2023, pp. 9124–9133.
- [11] H. Chiang, Y. Wu, S. Shirmohammadi, and C. Hsu, “Memory-efficient high-accuracy food intake activity recognition with 3D mmWave radar,” in *Proc. of ACM International Workshop on Multimedia Assisted Dietary Management (MADiMa’23)*, Ottawa, Canada, October 2023, pp. 33–41, **Best Paper Award**.
- [12] K. Lee, J. Fang, Y. Sun, and C. Hsu, “Modeling gamer quality-of-experience using a real cloud VR gaming testbed,” in *Proc. of ACM International Workshop on Immersive Mixed and Virtual Environment Systems (MMVE’23)*, Vancouver, Canada, June 2023, pp. 12–17.
- [13] J. Fang, K. Lee, T. Kamarainen, M. Siekkinen, and C. Hsu, “Will dynamic foveation boost cloud VR gaming experience?” in *Proc. of ACM International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV’23)*, Vancouver, Canada, June 2023, pp. 29–35.
- [14] Y. Sun, I. Huang, Y. Shi, W. Ooi, C. Huang, and C. Hsu, “A dynamic 3D point cloud dataset for immersive applications,” in *Proc. of ACM SIGMM Conference on Multimedia Systems (MMSys’23)*, Vancouver, Canada, June 2023, Dataset Paper, pp. 376–383.
- [15] Y. Wu, H. Chiang, S. Shirmohammadi, and C. Hsu, “A dataset of food intake activities using sensors with heterogeneous privacy sensitivity levels,” in *Proc. of ACM SIGMM Conference on Multimedia Systems (MMSys’23)*, Vancouver, Canada, June 2023, Dataset Paper, pp. 416–422.
- [16] Y. Wei, X. Wei, X. Zheng, C. Hsu, and C. Yang, “A 6DoF VR dataset of 3D virtual world for privacy-preserving approach and utility-privacy tradeoff,” in *Proc. of ACM SIGMM Conference on Multimedia Systems (MMSys’23)*, Vancouver, Canada, June 2023, Dataset Paper, pp. 444–450.
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- [18] T. Hung, I. Huang, S. Cox, W. Ooi, and C. Hsu, “Error concealment of dynamic 3D point cloud streaming,” in *Proc. of ACM International Conference on Multimedia (Multimedia’22)*, Lisbon, Portugal, October 2022, pp. 3134–3142.
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- [20] S. Tang, Y. Sun, J. Fang, K. Lee, C. Wang, and C. Hsu, “Optimal camera placement for 6 degree-of-freedom immersive video streaming without accessing 3D scenes,” in *Proc. of ACM International Workshop on Interactive Extended Reality (IXR’22)*, Lisbon, Portugal, October 2022, pp. 31–39.
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- [22] Y. Sun, S. Tang, C. Wang, and C. Hsu, “On objective and subjective quality of 6DoF synthesized live immersive videos,” in *Proc. of ACM International Workshop on Quality of Experience in Visual Multimedia Applications (QoEVMA’22)*, Lisbon, Portugal, October 2022, pp. 49–56.
- [23] T. Fan, J. Fang, F. Liu, N. Venkatasubramanian, and C. Hsu, “Enhancing situational awareness with adaptive firefighting drones: Leveraging diverse media types and classifiers,” in *Proc. of ACM SIGMM Conference on Multimedia Systems (MMSys’22)*, Athlone, Ireland, June 2022, pp. 279–286.
- [24] T. Fan, T. Tsai, F. Liu, N. Venkatasubramanian, and C. Hsu, “WinSet: The first multi-modal window dataset for heterogeneous window states in smart cities,” in *Proc. of ACM International Conference on Systems for Energy-Efficient Built Environments (BuildSys’21)*, Coimbra, Portugal, November 2021, Note Paper, pp. 192–195.
- [25] F. Liu, T. Fan, C. Grant, C. Hsu, and N. Venkatasubramanian, “DragonFly: Drone-assisted high-rise monitoring for fire safety,” in *Proc. of IEEE International Symposium on Reliable Distributed Systems (SRDS’21)*, Chicago, IL, September 2021, pp. 331–342.
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- [29] Y. Li, C. Hsu, Y. Lin, and C. Hsu, “Performance measurements on a cloud VR gaming platform,” in *Proc. of ACM Workshop on Quality of Experience in Visual Multimedia Applications (QoEVMA’20)*, Seattle, WA, October 2020, pp. 37–45.

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- [31] P. Venkateswaran, C. Hsu, S. Mehrotra, and N. Venkatasubramanian, “REAM: Resource efficient adaptive monitoring of community spaces at the edge using reinforcement learning,” in *Proc. of IEEE International Conference on Smart Computing (SMARTCOMP’20)*, Bologna, Italy, September 2020, pp. 17–24, **Best Paper Award**.
- [32] C. Wu, C. Hsu, T. Kuo, C. Griwodz, M. Riegler, G. Morin, and C. Hsu, “PCC Arena: A benchmark platform for point cloud compression algorithms,” in *Proc. of ACM International Workshop on Immersive Mixed and Virtual Environment Systems (MMVE’20)*, Istanbul, Turkey, June 2020, pp. 1–6.
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- [44] M. Rahman, A. Rahman, A. Afrin, H. Hong, P. Tsai, M. Uddin, N. Venkatasubramanian, and C. Hsu, “Adaptive sensing using Internet-of-Things with constrained communications,” in *Proc. of ACM/IFIP/USENIX Adaptive and Reflective Middleware Workshop (ARM’17)*, Las Vegas, NV, December 2017, pp. 6:1–6:6.
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- [3] C. Hsu, N. Freris, J. Singh, and X. Zhu, “Distortion-aware multihomed scalable video streaming to multiple clients,” US Patent Grant, Publication # US 8793391 B2, July 2014.
- [4] C. Hsu, K. Kim, J. Singh, D. Chen, S. Tsai, and B. Girod, “A smartphone-based asset management system,” US Patent Application, Publication # US20120202515 A1, August 2012.

#### EXTERNAL GRANT FUNDING

##### Government Grants, Serving as Principal Investigator

- 2023–2025: “Digital Twin Enabled Smart Cities: Architectural Design, Implementation, and Optimization,” NSTC General Research Project (#112-2221-E-007-090-MY3), NTD 2637k, PI.
- 2022: “Dynamic Point Cloud Compression, Adaptation, and Concealment Under Heterogeneous Streaming Scenarios,” NSTC General Research Project (#111-2221-E-007-060), NTD 740k, PI.

- 2021: “6DoF Edge-Assisted Cloud XR Gaming Platform with Observer Support: Implementation and Optimization,” MOST General Research Project (#110-2221-E-007-102), NTD 754k, PI.
- 2019–2020: “VR Video Streaming Services in 5G edge Computing Architecture,” NTHU Cross-Strait Tsing Hua Collaborative Project, NTD 600k, PI.
- 2018–2020: “Teleporting Through Space Across Time Using Head-Mounted Displays: A Case Study for Real Estate,” MOST General Research Project (#107-2221-E-007-091-MY3), NTD 3657k, PI.
- 2018: “Optimizing Internet-of-Things Analytics Platforms in Smart Spaces Using Multimedia Edge Computing,” MOST Subsidy for Short-Term Research Abroad for Technologists Project (#107-2918-I-007-014), NTD 556k, PI.
- 2017: “Optimal 360 Video Streaming for Social VR Systems,” MOST General Research Project (#106-2221-E-007-101), NTD 737k, PI.
- 2016: “Research on Fog Computing for Next-generation Distributed Multimedia Applications,” MOST General Research Project (#105-2221-E-007-088), NTD 715k, PI.
- 2016: “Network Infrastructure Virtualization and Cloud Platform for Future Mobile Communications,” NTHU Cross-Strait Tsing Hua Collaborative Project, NTD 500k, PI.
- 2013–2015: “An Efficient Crowdsourcing Platform for Multimedia Content Gathering and Sharing,” MOST Excellent Junior Research Investigator Research Project (#102-2221-E-007-062-MY3), NTD 1865k, PI.
- 2011–2012: “An Efficient Multimedia Dissemination Platform for Multihomed Smartphones,” NSC New Staff Research Project (#100-2218-E-007-015-MY2), NTD 1217k, PI.

#### **Industrial Grants, Serving as Principal Investigator**

- 2024: “Unmanned Vehicle Communication and Collaborative Management Technology,” Industrial Technology Research Institute, NTD 600k, PI.
- 2023: “Standards for Drone Swarm Collaboration and Management System,” Industrial Technology Research Institute, NTD 600k, PI.
- 2022–2025: “Enabling XR Cloud Gaming in 6G Cellular Networks: Prototype and Optimization,” MediaTek Inc., NTD 4200k, PI.
- 2017–2019: “Managed Internet-of-Things Platforms - Mechanisms and Optimization,” LITE-ON Technology Corporation, NTD 4800k, PI.
- 2017: “CPS Knowledge Base Database,” Industrial Technology Research Institute, NTD 198k, PI.
- 2016: “CPS Knowledge Base Web Service,” Industrial Technology Research Institute, NTD 300k, PI.
- 2016: “Research on 5G Cloud Platform Architecture,” Institute for Information Industry, NTD 1000k, PI.
- 2015–2016: “Improving Wireless Screencast in Conference Rooms,” AWIND Inc./Barco, NTD 750k, PI.
- 2013: “Research on Multi-format Video Codec Library for Embedded Systems,” Industrial Technology Research Institute, NTD 600k, PI.
- 2012: “UPDATE: User-Profile-Driven Dynamic Data Transfer–Theory and Implementation,” HTC Corporation, NTD 1949k, PI.

#### **Government Grants, Serving as Co-Principal Investigator**

- 2019–2021: “5G-AIoT Technology and Application Research Center,” MOE Higher Education Sprout Project, NTD 12580k, Co-PI.
- 2018–2019: “Research on Smart Edge Computing, Big Data, and Internet-of-Things: Taking Smart City as a Case Study,” MOE Higher Education Sprout Project, NTD 9000k, Co-PI.
- 2017: “Intelligent Life and Environments: Using Smart Bike as the Platform of Wearable Applications, Research and Promotion,” MOST Integrated Research

Project (#106-3011-E-007-001), NTD 3407k, Co-PI.

- 2016–2018: “Alliance of Cloud Technology and Services,” MOST University-Industry Collaboration Project (#107-2622-8-007-004-TE2, 106-2622-8-007-005-TE2, and 105-2622-8-007-005-TE2), NTD 7324k, Co-PI.
- 2015: “Optimization and Resource Management of Cloud Computing Platform for 5G Mobile Communications,” MOST Integrated Research Project (#104-2221-E-007-053), NTD 623k, Co-PI.
- 2015: “An Experimental Cloud Computing Platform for 5G Mobile Communications,” MOST Integrated Research Project (#104-2221-E-002-082), NTD 2236k, Co-PI.
- 2015: “Development of Advanced Manufacturing Technologies for High Value Added Intelligent Coil Leveling and Pressing Machines Through Human-Centered Designs and Mechatronic Integration,” MOST Integrated Research Project (#104-3011-E-007-001), NTD 4996k, Co-PI.
- 2014–2016: “Application Platform for Next Generation Communication and Networking—Development of an Urban Computing Platform,” MOST Integrated Research Project (#103-2218-E-007-021, 104-3115-E-007-004, and 105-2218-E-007-011), NTD 14811k, Co-PI.
- 2014–2016: “Intelligent Life and Environments: Using Smart Bike as the Platform of Wearable Applications,” MOST Integrated Research Project (#103-2218-E-007-015, 104-3115-E-007-001, and 105-2218-E-007-005), NTD 16262k, Co-PI.
- 2014: “SDN-enabled Cloud-based Wireless and Broadband Network Technologies & Services,” MOST University-Industry Collaboration Project (#103-2622-E-009-012), NTD 57000k, Co-PI.

#### **Industrial Grants, Serving as Co-Principal Investigator**

- 2022–2023: “Distributed Learning for Edge AI Applications,” Qualcomm Technologies, Inc., NTD 5008k, Co-PI.
- 2020–2021: “Machine Learning on Edge Computing Platforms,” Qualcomm Technologies, Inc., NTD 5595k, Co-PI.
- 2019–2020: “Development for AI Related Edge and Infrastructure,” United Microelectronics Corporation, NTD 990k, Co-PI.
- 2018: “Artificial Intelligence Systems Integration: Edge Computing and Model Reduction,” United Microelectronics Corporation, NTD 234k, Co-PI.

#### **SUPERVISED THESES**

- 2020: “Optimizing Immersive Video Streaming to Head-Mounted Virtual Reality,” Ching-Ling Fan (Ph.D. from 2016)
- 2020: “Social Network-Based Question Answering Systems,” Imad Ali (Co-supervised with Prof. Ronald Y. Chang, Ph.D. from 2014)
- 2018: “Optimal Resource Allocation for Analytics and Multimedia Applications in Cloud-to-Things Continuum Platforms,” Hua-Jun Hong (Ph.D. from 2014)
- 2022: “A Multi-Tenant System for Deploying Deep Neural Networks in a Thing-to-Cloud Continuum,” Chia-Ying Hsieh (Master from 2020)
- 2022: “HPFL: Federated Learning by Fusing Multiple Sensor Modalities with Heterogeneous Privacy Sensitivity Levels,” Yuanjie Chen (Master from 2020)
- 2022: “Enhancing Situational Awareness with Adaptive Firefighting Drones: Leveraging Diverse Media Types and Classifiers,” Tzu-Yi Fan (Master from 2020)
- 2022: “On Error Concealment of Dynamic 3D Point Cloud Streaming,” Tzu-Kuan Hung (Master from 2020)
- 2021: “Optimizing Immersive Video Coding Configurations Using Deep Learning Approaches,” Tse-Hou Hung (Master from 2019)
- 2021: “Quantitative Comparison of Point Cloud Compression Algorithms,” Cheng-Hao Wu (Master from 2019)
- 2021: “Multi-level Feature-driven Storage Management of Surveillance Videos,”

Min-Han Tsai (Master from 2020)

- 2020: “Image Download and Rate Allocation of Internet-of-Things Analytics at Gateways in Smart Cities,” Yu-Jung Wang (Master from 2017)
- 2019: “Preemptive Multiplexed HTTP Streaming of 360° Tiled Videos to Head-Mounted Displays,” Shou-Cheng Yen (Master from 2018)
- 2019: “Capitalizing Light-Field Technology in Head-Mounted Virtual Reality,” Yu-Ming Lai (Master from 2017)
- 2018: “Modeling Quality-of-Experience of 360° Videos in Head-Mounted Virtual Reality,” Shun-Huai Yao (Master from 2016)
- 2018: “Dynamic and Scalable Deployment of Edge Internet-of-Things Analytics,” Pei-Hsuan Tsai (Master from 2016)
- 2018: “Edge-Assisted 360-degree Video Streaming for Head-Mounted Virtual Reality,” Wen-Chih Lo (Master from 2016)
- 2017: “Building a Next-Generation Cloud Gaming Platform with Planar Map Streaming and Distributed Rendering,” Ping-Chun Wang (Master from 2016)
- 2017: “User Experience of Gamified Mobile Crowdsourcing in Smart Cities,” Aylada Khunvaranont (Master from 2015)
- 2017: “Traffic-Engineer in Software Defined Networks using Label Switching,” Chen-Nien Mao (Master from 2015)
- 2017: “Efficient Mobile Crowdsourcing via Gamification for Smart City Applications,” Ying-Yi Chen (Master from 2015)
- 2016: “Optimizing Live Game Streaming Platforms Using Segment-of-Interests,” Tao-Ya Fan Chiang (Master from 2014)
- 2016: “Predicting Resource Availability in a Multimedia Fog Computing Platform,” Yi-Ying Huang (Master from 2014)
- 2016: “A Load-Balanced Video Multicast Routing System in Software-Defined Networks,” Meng-Wei Lee (Master from 2013)
- 2015: “Placing Virtual Machines to Optimize Cloud Gaming Experience,” Hua-Jung Hong (Master from 2013)
- 2015: “Turning Mininet/Open vSwitch into A Detailed OpenFlow Emulator,” Yi-Jun Cheng (Master from 2013)
- 2015: “Distribution of News Videos to Mobile Devices over Challenged Networks,” Shu-Ting Wang (Master from 2013)
- 2015: “Detour Planning Problem on Mobile Crowdsensing Systems,” Chen-Chieh Liao (Master from 2012)
- 2015: “MPEG-DASH Standard with SVC Video Streaming on Android Mobile Devices,” Chien-Chang Chen (Master from 2012)
- 2014: “Optimizing Mobile Middleware for Coordinated Sensor Activations,” Ting-Fang Hou (Master from 2012)
- 2014: “Mobile Cloud Offloading on Crowdsensing Platform,” Ting-Yi Lin (Master from 2012)
- 2013: “A Resource-Constrained Asymmetric Redundancy Elimination Algorithm,” Yu-Sian Li (Master from 2011)
- 2013: “Reducing Training Overhead of Large Time-Scale Transfer Scheduling for Mobile Devices,” Ting-An Lin (Master from 2011)

**SUPERVISED  
NSTC  
UNDERGRADUATE  
PROJECTS**

- 2023: “On Privacy Preservation of Head-Mounted Display Users in Virtual Worlds,” Shin-Yi Zheng
- 2023: “First Look at Digital Twin Enabled Smart Wind Turbines for Green Electricity,” Cheng-Chia Lai
- 2022: “Optimal Camera Placement for 6 Degree-of-Freedom Multicast of 3D Scenes,” Yuan-Chun Sun
- 2020: “On Quality-of-Experience Measurements of Extended Reality (XR) Games,”

Chia-Hsin Hsu

- 2020: “On Latency Reduction of XR Cloud Gaming Platforms,” Yen-Chun Li
- 2020: “Porting a Cloud Gaming System to Support XR Games with Head-Mounted Displays,” Yu-Chun Lin
- 2019: “Distributed Brokers in Internet-of-Thing Zones: Mechanism and Optimization,” Chia-Ying Hsieh
- 2018: “Streaming Scalable Video Sequences with Media-aware Network Elements,” Chao-Wen Chen
- 2018: “Joint Tile Selection and Rate Allocation for Foveated 360 Video Streaming to Eye-tracking HMD,” Yu-Tung Pai
- 2017: “Context-aware Resource Prediction of Crowdsourced Computers for Animation Rendering,” Jo-Chi Chuang
- 2016: “Cloud Game Streaming Platform to Glass-free 3D Displays,” Hsin-Yu Chang
- 2015: “Building an Efficient Software Defined Network Emulator,” Cheng-Lin Li
- 2014: “Optimizing the Encoding Bitrate of an Open-source VoIP Implementation,” Wei-Wei Tseng
- 2013: “On Prediction Algorithms for Social Media Sharing Using Mobile Devices,” Chen-Chung Hsu

SELECTED THESIS  
SERVICE

- Opponent for Gazi Illahi, Ph.D., Aalto University, June 2024
- Pre-Examiner for Gazi Illahi, Ph.D., Aalto University, October 2023
- Reviewer for Jesus Aguilar Armijo, Ph.D., Klagenfurt University, April 2023
- Examiner for Branislav Jenco, Master, University of Oslo, June 2022
- Reviewer for Ashutosh Singla, Ph.D., Ilmenau University of Technology, November 2021
- Examiner for Henry Haugsteen Hansen, Master, University of Oslo, July 2020
- Examiner for Praveen Kumar Yadav, Ph.D., National University of Singapore, July 2020
- External Pre-examiner for Teemu Kamarainen, Ph.D., Aalto University, November 2019
- Opponent for Francisco Javier Velazquez-García, Ph.D., University of Oslo, May 2019
- Opponent for Kristoffer Robin Stokke, Ph.D., University of Oslo, February 2017
- Examiner for Atle Nordland, Master, University of Oslo, September 2016
- Committee Member for Chien-Nan Chen, Ph.D., University of Illinois Urbana-Champaign, September 2015
- Examiner for Warren Harrop, Ph.D., Swinburne University of Technology, February 2014
- Examiner for Ben Tomlin, Master, University of Oslo, December 2013
- Committee Member for Yichuan Wang, Ph.D., University of California Davis, March 2011

COMMUNITY  
SERVICE

- Associate Editor, ACM Transactions on Multimedia Computing, Communications and Applications (ACM TOMM), January 2014 to Present
- Associate Editor, IEEE Technical Committee on Multimedia Communications (MMTC) E-Letter, October 2012 to October 2014
- Guest Editor, IEEE MultiMedia, Special Issue on Recent Advances in Immersive Multimedia, October 2022
- Guest Editor, MDPI Sensors, Special Issue on Communication in Networks of Unmanned Aerial Vehicles (UAVs), June 2020
- Guest Editor, ACM Transactions on Multimedia Computing, Communications and

Applications (ACM TOMM), Special Issue on Delay-Sensitive Video Computing in the Cloud, April/May 2018

- Guest Editor, ACM Transactions on Multimedia Computing, Communications and Applications (ACM TOMM), Special Section on MMSys/NOSSDAV 2017 Best Papers, April/May 2018
- Key Member, IEEE Technical Committee on Multimedia Communications (MMTC) Multimedia Cloud Computing Interest Group (MCCIG), May 2015 to April 2020
- Committee Member, ACM Special Interest Group on Multimedia (SIGMM) History Preservation Committee, January 2010 to January 2014
- Committee Member, IEEE Technical Committee on Multimedia Communications (MMTC) Review Board Committee, August 2010 to July 2012
- Mentoring Co-chair, ACM SIGMM Conference on Multimedia Systems (MMSys'25), March 2025
- Tutorial Chair, IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'24), August 2024
- Publication Co-chair, IEEE International Conference on Smart Computing (SMARTCOMP'24), June 2024
- Keynote/DEP Co-chair, IEEE/IFIP Network Operations and Management Symposium (NOMS'24), May 2024
- Distinguished Experts Panel (DEP) Co-chair, IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS'23), September 2023
- Grand Challenge Chair, ACM SIGMM Conference on Multimedia Systems (MM-Sys'23), June 2023
- Publication Co-chair, IEEE International Conference on Smart Computing (SMARTCOMP'23), June 2023
- Workshop Co-Chair, IEEE International Conference on Multimedia Big Data (BigMM'22), December 2022
- Distinguished Experts Panel (DEP) Co-chair, IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS'22), September 2022
- Publication Co-chair, IEEE International Conference on Smart Computing (SMARTCOMP'22), June 2022
- Workshop Co-Chair, IEEE International Conference on Multimedia Big Data (BigMM'21), November 2021
- Publicity Co-chair, IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS'21), September 2021
- Publication Co-chair, IEEE International Conference on Smart Computing (SMARTCOMP'21), July 2021
- General Co-chair, ACM SIGMM Conference on Multimedia Systems (MMSys'21), June 2021
- Publicity Co-chair, IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS'20), September 2020
- Demonstration Co-chair, IEEE International Conference on Multimedia Big Data (BigMM'19), September 2019
- Publicity Co-chair, IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS'19), September 2019
- Publicity Co-chair, ACM SIGMM Conference on Multimedia Systems (MMSys'18), June 2018
- Poster Co-chair, IEEE/IFIP Network Operations and Management Symposium (NOMS'18), April 2018
- Area Co-chair, Mobile and Wearable Multimedia, ACM International Conference on Multimedia (Multimedia'17), October 2017
- Technical Program Co-chair, ACM SIGMM Conference on Multimedia Systems (MMSys'17), June 2017
- Poster Co-chair, IEEE Asia-Pacific Network Operations and Management Sympos

sium (APNOMS'17), September 2017

- Poster Co-chair, IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS'16), October 2016
- Track Co-chair, Mobile Computing and Social Media Track, IEEE International Conference on Embedded and Ubiquitous Computing (EUC'15), October 2015
- Poster Co-chair, IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS'15), August 2015
- Proceedings Chair, ACM SIGMM Conference on Multimedia Systems (MMSys'15), March 2015
- Publicity Chair, IEEE International Conference on Parallel and Distributed Systems (ICPADS'14), December 2014
- Symposium Co-chair, Internet Services and Applications Symposium, IEEE International Conference on Computing, Networking and Communications (ICNC'14), February 2014
- Local Arrangement Chair, Workshop on Wireless, Ad Hoc and Sensor Networks (WASN'13), August 2013
- Technical Program Co-chair, ACM Workshop on Mobile Video (MoVid'13), February 2013
- Technical Program Co-chair, ACM Workshop on Mobile Video (MoVid'12), February 2012
- Proceedings and Web Chair, ACM International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV'10), June 2010
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia'24), October 2024
- Technical Program Committee Member, IEEE International Workshop on Surpassing Latency Limits in Adaptive Live Video Streaming (LIVES'24), July 2024
- Technical Program Committee Member, IEEE International Workshop on Ultra Low-Latency and Robust Multimedia Delivery (ULRMD'24), July 2024
- Technical Program Committee Member, IEEE International Conference on Multimedia and Expo (ICME'24), July 2024
- Technical Program Committee Member, ACM International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV'24), June 2024
- Technical Program Committee Member, ACM SIGMM Conference on Multimedia Systems (MMSys'24), April 2024
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia'23), OSS Track, October 2023
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia'23), October 2023
- Technical Program Committee Member, IEEE International Conference on Network Protocols (ICNP'23), October 2023
- Technical Program Committee Member, ACM International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV'23), June 2023
- Technical Program Committee Member, ACM SIGMM Conference on Multimedia Systems (MMSys'23), June 2023
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia'22), October 2022
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia'22)–Doctoral Symposium, October 2022
- Technical Program Committee Member, IEEE International Conference on Multimedia and Expo (ICME'22), July 2022
- Technical Program Committee Member, ACM SIGMM Conference on Multimedia Systems (MMSys'22), June 2022

- Technical Program Committee Member, IEEE/IFIP Network Operations and Management Symposium (NOMS'22), April 2022
- Technical Program Committee Member, IEEE International Workshop on Building the Foundations of the Metaverse (METABUILD'22), March 2022
- Technical Program Committee Member, IEEE Global Communications Conference–Communication & Information Systems Security (GLOBECOM–CISS'21), December 2021
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia'21), October 2021
- Technical Program Committee Member, IEEE International Conference on Multimedia and Expo (ICME'21), July 2021
- Technical Program Committee Member, ACM International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV'21), June 2021
- Technical Program Committee Member, IEEE International Conference on Communications–Next Generation Networking and Internet Symposium (ICC–NGNI'21), June 2021
- Technical Program Committee Member, IFIP/IEEE International Symposium on Integrated Network Management (IM'21), May 2021
- Technical Program Committee Member, International World Wide Web Conference (WWW'21), April 2021
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia'20), October 2020
- Technical Program Committee Member, IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS'20), September 2020
- Technical Program Committee Member, IEEE International Conference on Multimedia and Expo (ICME'20), July 2020
- Technical Program Committee Member, ACM International Packet Video Workshop (PV'20), June 2020
- Technical Program Committee Member, ACM SIGMM Conference on Multimedia Systems (MMSys'20), June 2020
- Technical Program Committee Member, IEEE International Conference on Communications–Next Generation Networking and Internet Symposium (ICC–NGNI'20), June 2020
- Technical Program Committee Member, IEEE/IFIP Network Operations and Management Symposium (NOMS'20), April 2020
- Technical Program Committee Member, International Conference on Computing, Networking, and Communications (ICNC'20), February 2020
- Technical Program Committee Member, ACM International Workshop on Technology Enablers and Innovative Applications for Smart Cities (TESCA'19), November 2019
- Technical Program Committee Member, IEEE International Conference on Big Data Intelligence and Computing (DataCom'19), November 2019
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia'19), October 2019
- Technical Program Committee Member, IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS'19), September 2019
- Technical Program Committee Member, IEEE International Conference on Multimedia and Expo (ICME'19), July 2019
- Technical Program Committee Member, ACM SIGMM Conference on Multimedia Systems (MMSys'19), June 2019
- Technical Program Committee Member, ACM SIGMM Conference on Multimedia Systems (MMSys'19) Demo Session, June 2019
- Technical Program Committee Member, IEEE International Conference on

Communications–Next Generation Networking and Internet Symposium (ICC–NGNI’19), May 2019

- Technical Program Committee Member, International World Wide Web Conference (WWW’19), May 2019
- Technical Program Committee Member, IFIP/IEEE International Symposium on Integrated Network Management (IM’19), April 2019
- Technical Program Committee Member, IEEE International Workshop on Context-Awareness for Multi-Device Pervasive and Mobile Computing (PerCrowd’19), March 2019
- Technical Program Committee Member, International Conference on Computing, Networking, and Communications (ICNC’19), February 2019
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia’18), October 2018
- Technical Program Committee Member, IEEE Approaches, Analyses, and Performance Issues in Virtualized Environments and Software Defined Networking (PVE-SDN’18), June 2018
- Technical Program Committee Member, ACM SIGMM Conference on Multimedia Systems (MMSys’18) Demo Session, June 2018
- Technical Program Committee Member, ACM SIGMM Conference on Multimedia Systems (MMSys’18), June 2018
- Technical Program Committee Member, IEEE International Conference on Communications–Next Generation Networking and Internet Symposium (ICC–NGNI’18), May 2018
- Technical Program Committee Member, IEEE/IFIP Network Operations and Management Symposium (NOMS’18), April 2018
- Technical Program Committee Member, International Workshop on Interactive and Spatial Computing (IWISC’18), April 2018
- Technical Program Committee Member, IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR’18), April 2018
- Technical Program Committee Member, International World Wide Web Conference (WWW’18), April 2018
- Technical Program Committee Member, IEEE International Conference on Cloud Engineering (IC2E’18), April 2018
- Technical Program Committee Member, IEEE International Workshop on Pervasive Systems Integration (PerSysT’18), March 2018
- Technical Program Committee Member, IEEE International Workshop on Context-Awareness for Multi-Device Pervasive and Mobile Computing (PerCrowd’18), March 2018
- Technical Program Committee Member, International Conference on Computing, Networking, and Communications (ICNC’18), March 2018
- Technical Program Committee Member, IEEE International Symposium on Multimedia (ISM’17), December 2017
- Technical Program Committee Member, IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS’17), September 2017
- Technical Program Committee Member, IEEE International Conference on Computer Communications and Networks (ICCCN’17), July 2017
- Technical Program Committee Member, IEEE International Conference on Communications–Next Generation Networking and Internet Symposium (ICC–NGNI’17), May 2017
- Technical Program Committee Member, IEEE International Conference on Cloud Engineering (IC2E’17), April 2017
- Technical Program Committee Member, International Conference on Computing, Networking, and Communications (ICNC’17), January 2017
- Technical Program Committee Member, IEEE International Symposium on Multi-

media (ISM'16), December 2016

- Technical Program Committee Member, ACM/IFIP/USENIX International Middleware Conference (Middleware'16), December 2016
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia'16), October 2016
- Technical Program Committee Member, IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS'16), October 2016
- Technical Program Committee Member, ACM Workshop on Micro Aerial Vehicle Networks, Systems, and Applications for Civilian Use (DroNet'16), May 2016
- Technical Program Committee Member, ACM SIGMM Conference on Multimedia Systems (MMSys'16), Special Session on Media Synchronization, May 2016
- Technical Program Committee Member, ACM Workshop on Mobile Video (MoVid'16), May 2016
- Technical Program Committee Member, ACM SIGMM Conference on Multimedia Systems (MMSys'16), May 2016
- Technical Program Committee Member, IEEE International Conference on Communications–Next Generation Networking Symposium (ICC–NGN'16), May 2016
- Technical Program Committee Member, International Conference on Computing, Networking, and Communications (ICNC'16), February 2016
- Technical Program Committee Member, IEEE Global Conference on Signal and Information Processing (GlobalSIP'15), December 2015
- Technical Program Committee Member, ACM/IFIP/USENIX International Middleware Conference (Middleware'15), December 2015
- Technical Program Committee Member, IEEE/ACM Workshop on Network and Systems Support for Games (NetGames'15), December 2015
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia'15), October 2015
- Technical Program Committee Member, IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS'15), August 2015
- Technical Program Committee Member, IEEE International Conference on Computer Communications and Networks (ICCCN'15), August 2015
- Technical Program Committee Member, IEEE International Conference on Distributed Computing Systems (ICDCS'15), June 2015
- Technical Program Committee Member, IEEE International Conference on Communications–Next Generation Networking Symposium (ICC–NGN'15), June 2015
- Technical Program Committee Member, ACM Workshop on Micro Aerial Vehicle Networks, Systems, and Applications for Civilian Use (DroNet'15), May 2015
- Technical Program Committee Member, ACM SIGMM Conference on Multimedia Systems (MMSys'15) Dataset Track, March 2015
- Technical Program Committee Member, ACM SIGMM Conference on Multimedia Systems (MMSys'15), March 2015
- Technical Program Committee Member, ACM Workshop on Mobile Video (MoVid'15), March 2015
- Technical Program Committee Member, International Conference on Computing, Networking, and Communications (ICNC'15), February 2015
- Technical Program Committee Member, IEEE International Conference on Parallel and Distributed Systems (ICPADS'14), December 2014
- Technical Program Committee Member, IEEE/ACM Workshop on Network and Systems Support for Games (NetGames'14), December 2014
- Technical Program Committee Member, Workshop on Information Technology Innovation, Industrial Application and Internet of Things (ITIIAIT'14), December 2014

- Technical Program Committee Member, IEEE Global Communications Conference–Communications Software, Services and Multimedia Symposium (GLOBECOM–CSSM’14), December 2014
- Technical Program Committee Member, IEEE Global Communications Conference–Wireless Networking Symposium (GLOBECOM–WN’14), December 2014
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia’14), November 2014
- Technical Program Committee Member, International Conference on High-Performance Compilation, Computing, and Communications (HP3C’14), September 2014
- Technical Program Committee Member, ACM SIGMM Conference on Multimedia Systems (MMSys’14), March 2014
- Technical Program Committee Member, ACM International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV’14), March 2014
- Technical Program Committee Member, ACM Workshop on Mobile Video (MoVid’14), March 2014
- Technical Program Committee Member, IEEE International Conference on Communications–Mobile and Wireless Networking Symposium (ICC–MWN’14), June 2014
- Technical Program Committee Member, IEEE Global Communications Conference–Communications Software, Services and Multimedia Symposium (GLOBECOM–CSSM’13), December 2013
- Technical Program Committee Member, IEEE Global Communications Conference–Wireless Networking Symposium (GLOBECOM–WN’13), December 2013
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia’13), October 2013
- Technical Program Committee Member, IEEE International Conference on Distributed Computing Systems (ICDCS’13), July 2013
- Technical Program Committee Member, IEEE International Symposium on Consumer Electronics (ISCE’13), June 2013
- Technical Program Committee Member, IEEE International Conference on Advanced Information Networking and Applications (AINA’13), March 2013
- Technical Program Committee Member, IEEE International Conference and Workshops on Cloud Computing Technology and Science–Industrial Applications (CloudCom’12), December 2012
- Technical Program Committee Member, IEEE Workshop on Quality of Experience for Multimedia Communications (QoEMC’12), December 2012
- Technical Program Committee Member, IEEE International Conference on Parallel and Distributed Systems (ICPADS’12), December 2012
- Technical Program Committee Member, IEEE Global Communications Conference–Communications Software, Services and Multimedia Symposium (GLOBECOM–CSSM’12), December 2012
- Technical Program Committee Member, IEEE Global Communications Conference–Wireless Networking Symposium (GLOBECOM–WN’12), December 2012
- Technical Program Committee Member, ACM International Conference on Multimedia (Multimedia’12), October 2012
- Technical Program Committee Member, International Conference on Computing, Networking, and Communications (ICNC’12), January 2012
- Technical Program Committee Member, IEEE International Conference on Parallel and Distributed Systems (ICPADS’11), December 2011
- Technical Program Committee Member, IEEE Global Communications Conference–Wireless Communications Symposium (GLOBECOM–WN’11), December 2011
- Technical Program Committee Member, IEEE International Conference on Com-

puter Engineering and Systems (ICCES'11), November 2011

- Technical Program Committee Member, ACM International Conference on Multi-media (Multimedia'11), November 2011
- Technical Program Committee Member, International Conference on Embedded and Multimedia Computing (EMC'11), August 2011
- Technical Program Committee Member, IEEE International Conference on Multi-media and Expo (ICME'11), July 2011
- Technical Program Committee Member, ACM International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV'11), June 2011
- Technical Program Committee Member, International ICST Conference on MOBILE Wireless MiddleWARE, Operating Systems, and Applications (MobilWare'11), June 2011
- Technical Program Committee Member, ACM Workshop on Mobile Video Delivery (MoViD'10), October 2010
- Technical Program Committee Member, International Conference on Embedded and Multimedia Computing (EMC'10), August 2010
- Technical Program Committee Member, ACM International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV'10), June 2010

## AWARDS

### IEEE, ACM, and Other Institutes

- Best Paper Award, ACM SIGCOMM Workshop on Emerging Multimedia Systems (EMS'24), August 2024
- Best Paper Award, ACM International Workshop on Multimedia Assisted Dietary Management (MADiMa'23), October 2023
- Honorable Mention Associate Editor, ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM), October 2021
- Best of the Best Program Committee Member, International World Wide Web Conference (WWW'21), April 2021
- AMiner Scholar's AI 2000 Most Influential Scholar Honorable Mention in Multimedia, April 2021
- Best Emergent Reviewer Award, ACM International Conference on Multimedia (Multimedia'20), October 2020
- Best Paper Award, IEEE International Conference on Smart Computing (SMART-COMP'20), September 2020
- Outstanding Reviewer Award, IEEE International Conference on Multimedia and Expo (ICME'20), July 2020
- Best Reviewer Award, IEEE/IFIP Network Operations and Management Symposium (NOMS'20), April 2020
- Best Paper Award, IEEE International Conference on Cloud Computing Technology and Science (CloudCom'17), December 2017
- Best Paper Award, Asia-Pacific Network Operations and Management Symposium (APNOMS'16), October 2016
- Best Associate Editor, ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM), September 2016
- IEEE Senior Member, the IEEE, from July 2016
- Invited Presenter, Multimedia Rising Stars, ACM International Conference on Multimedia (Multimedia'15), October 2015
- TAOS Best Paper Award, IEEE Global Communications Conference (GLOBECOM'12), December 2012
- Best Paper Award, IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS'12), April 2012

- Quality Reviewers Award, IEEE International Conference on Multimedia and Expo (ICME'11), July 2011
- Best Paper Award, IEEE International Conference on Innovations in Information Technology (Innovations'08), December 2008
- Best Demo Award, ACM International Conference on Multimedia (Multimedia'08), October 2008

**Foundations for the Advancement of Outstanding Scholarship (FAOS)**

- Outstanding Scholar Awards (for Retaining Domestic Scholars), 2018 to 2023

**National Science Council**

- Excellent Junior Research Investigator Grant, 2013 to 2016

**University of California Irvine**

- Annual Visiting Faculty Awards by the J. Yang and Family Foundation, Center for Asian Studies, 2023-2024
- Annual Visiting Faculty Awards by the J. Yang and Family Foundation, Center for Asian Studies, 2022-2023

**National Tsing Hua University**

- New Faculty Research Award, College of Electrical Engineering and Computer Science, National Tsing Hua University, 2014
- Outstanding New Faculty Stipend, Fall 2012 to Summer 2014

**Simon Fraser University, Canada**

- President's Ph.D. Research Stipend, Fall 2009
- School of Computing Science travel award, 2008/2009/2010
- Graduate fellowship, Spring 2009
- A.B.C. Recycling Ltd. graduate scholarship in intelligent systems, Spring 2009
- Graduate fellowship, Spring 2008
- Clark Wilson graduate scholarship in intelligent systems, Spring 2008
- Faculty of applied sciences graduate fellowship, Spring 2007
- Graduate entrance scholarship, Fall 2005

**ACM SIGCOMM**

- Travel grant, SIGCOMM'11 Conference, 2011
- Travel grant, SIGCOMM'08 Conference, 2008

**The Phi Tau Phi Scholastic Honor Society of The Republic of China**

- Honorary member, 2000

**REFERENCES**

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