

Curriculum Vitae

Han Yu, Nanyang Technological University, Singapore



Position: Nanyang Assistant Professor (NAP)

Address:

N4-02c-109, College of Computing and Data Science (CCDS)
Nanyang Technological University (NTU)
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Education

- **2014:** Doctor of Philosophy (PhD), School of Computer Engineering (SCE), NTU, Singapore.
- **2007:** Bachelor of Engineering (1st Class Honours), SCE, NTU, Singapore.

Research Interest

- Artificial Intelligence (AI)
 - Ethical AI
 - Federated Learning
 - Trustworthy Collaborative Intelligence

Employment History

- **2024 – 2026:** Coordinator, Teaching Allocation, CCDS, NTU, Singapore.
- **2018 – present:** Nanyang Assistant Professor (NAP), CCDS, NTU, Singapore.
- **2019:** Consultant, WeBank, China.
- **2015 – 2018:** Lee Kuan Yew Post-Doctoral Fellow (LKY PDF), NTU, Singapore.
- **2014 – 2015:** Research Fellow, LILY Research Centre, NTU, Singapore.
- **2007 – 2008:** Embedded Software Engineer, Hewlett-Packard (HP) Pte Ltd, Singapore.

Professional Society Membership

- Distinguished Member, China Computer Federation (CCF), since 2023.
- Senior Member, Association for the Advancement of Artificial Intelligence (AAAI), since 2023.
- Senior Member, Institute of Electrical and Electronics Engineers (IEEE), since 2022.
- Professional Member, Association for Computing Machinery (ACM), since 2016.
- Professional Member, Singapore Computer Society (SCS), since 2012.

Professional Organization Services

- **2024 – present:** Vice Chair, IEEE Computational Intelligence Society (CIS) Standards Committee
- **2023 – present:** Sponsorship Officer General, International Joint Conferences on Artificial Intelligence (IJCAI) Organization

Awards & Honours

1. **2024:** Innovative Application of AI Award, AAAI - "Transformer-empowered Multi-modal Item Embedding for Enhanced Image Search in E-Commerce".
2. **2024:** Innovative Application of AI Award, AAAI - "HiFi-Gas: Hierarchical Federated Learning Incentive Mechanism Enhanced Gas Usage Estimation".

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3. **2024:** Innovative Application of AI Award, AAAI - "IBCA: An Intelligent Platform for Social Insurance Benefit Qualification Status Assessment".
4. **2023:** World's Top 2% Scientists, Artificial Intelligence & Image Processing, Stanford University.
5. **2023:** COVID-19 Resilience Certificate - Project Belanja-a-Meal@Woodlands, Ministry of Culture, Community and Youth, Singapore.
6. **2023:** COVID-19 Resilience Certificate - Project Store@Woodlands, Ministry of Culture, Community and Youth, Singapore.
7. **2023:** Outstanding Award, Sembawang GRC, People's Association, Singapore.
8. **2023:** Certificate of Excellence, Sembawang GRC, People's Association, Singapore.
9. **2023:** Community Leadership Award, Sembawang GRC, People's Association, Singapore.
10. **2023:** Certificate of Appreciation, the 32nd International Joint Conference on Artificial Intelligence (IJCAI'23).
11. **2023:** Best Poster Award, Singapore ACM SIGKDD Symposium 2023 - "Fairness-Aware Client Selection for Federated Learning", ICME'23.
12. **2023:** Best Poster Runner-Up Award, Singapore ACM SIGKDD Symposium 2023 - "Competitive-Cooperative Multi-Agent Reinforcement Learning for Auction-based Federated Learning", IJCAI'23.
13. **2023:** "Efficient Training of Large-scale Industrial Fault Diagnostic Models through Federated Opportunistic Block Dropout," Innovative Application of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
14. **2022:** Merit Award, Ten Outstanding Young Persons (TOYP) of Singapore (Scientific and/or Technological Development), Junior Chamber International (JCI).
15. **2022:** World's Top 2% Scientists, Artificial Intelligence & Image Processing, Stanford University.
16. **2022:** National Service Advocate Award, Ministry of Defence and Ministry of Home Affairs, Singapore.
17. **2022:** Letter of Appreciation, Ministry of Education, Singapore.
18. **2022:** Certificate of Appreciation, People's Association, Singapore.
19. **2022:** Friend of Yuhua Award, People's Association, Singapore.
20. **2022:** PREMIA Certificate of Commendation, "Federated learning for personalized humor recognition", ACM Transactions on Intelligent Systems and Technology (TIST).
21. **2022:** Certificate of Appreciation, the 31st International Joint Conference on Artificial Intelligence (IJCAI'22).
22. **2022:** Top 5 Most Popular Video Award, College of Engineering (CoE), Nanyang Technological University (NTU), Singapore.
23. **2022:** Best Paper Award, AI for Transportation Workshop, AAAI-22.
24. **2022:** "Contribution-Aware Federated Learning for Smart Healthcare," Innovative Application of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
25. **2022:** "Prior-Guided Transfer Learning for Enhancing Item Representation in E-commerce," Innovative Application of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
26. **2022:** "Intelligent Online Selling Point Extraction for E-Commerce Recommendation," Innovative Application of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
27. **2022:** "Automatic Product Copywriting for E-Commerce," Innovative Application of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
28. **2022:** Friend of National Service Award, Singapore Armed Forces, Singapore.
29. **2021:** Best Paper Award, the 1st International Student Conference on Artificial Intelligence (STCAI'21).
30. **2021:** "Noise-resistant Deep Metric Learning with Ranking-based Instance Selection," CVPR'21, PREMIA Best Student Paper Runners Up Award.
31. **2021:** "Latent-Optimized Adversarial Neural Transfer for Sarcasm Detection," NAACL-HLT'21, PREMIA Best Presentation Award.
32. **2021:** Certificate of Appreciation, the 30th International Joint Conference on Artificial Intelligence (IJCAI'21).

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- 33.**2021:** "Enhancing E-commerce Recommender System Adaptability with Online Deep Controllable Learning-To-Rank," Innovative Application of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
- 34.**2020:** Highly Commended Entrant for the Global Undergraduate Awards 2020 for my Final Year Student Anqi Tu with project entitled "Development of an AI-powered Shareable Bike Rebalancing System".
- 35.**2020:** "FedVision: An Online Visual Object Detection Platform powered by Federated Learning," Innovative Application of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
- 36.**2020:** "Accelerating Ranking in E-Commerce Search Engines through Contextual Factor Selection," Innovative Application of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
- 37.**2020:** "PIDS: An Intelligent Electric Power Management Platform," Innovative Application of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
- 38.**2019:** Innovation Award, the 28th International Joint Conference on Artificial Intelligence (IJCAI'19).
- 39.**2019:** Most Innovative Video Award, the 28th International Joint Conference on Artificial Intelligence (IJCAI'19).
- 40.**2019:** Certificate of Appreciation, the 28th International Joint Conference on Artificial Intelligence (IJCAI'19).
- 41.**2018:** Outstanding Reviewer Award, Journal of Retailing and Consumer Services (JRCS), Elsevier.
- 42.**2018:** Top 10 Papers, the 26th ACM Multimedia Conference (ACM MM'18).
- 43.**2018:** Most Societally Beneficial Video Award, the 27th International Joint Conference on Artificial Intelligence (IJCAI'18).
- 44.**2018:** "SmarrHS: An AI Platform for Improving Government Service Provision", Innovative Application of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
- 45.**2017:** Best Student Paper Award, International Journal of Information Technology (IJIT).
- 46.**2016:** Best Paper Award, the 1st International Conference on Crowd Science and Engineering (ICCSE'16).
- 47.**2016:** Best Poster Award, the 1st International Conference on Crowd Science and Engineering (ICCSE'16).
- 48.**2016:** Best Paper Award, the 8th International Conference on Social Computing and Social Media (SCSM'16).
- 49.**2016:** Best Student Poster Award, the 30th AAAI Conference on Artificial Intelligence (AAAI-16).
- 50.**2016:** Best Video – People's Choice Award, the 30th AAAI Conference on Artificial Intelligence (AAAI-16).
- 51.**2015:** Best Demo Award, the 2015 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT'15).
- 52.**2015:** Best Application Video Award, the 24th International Joint Conference on Artificial Intelligence (IJCAI'15).
- 53.**2015:** Singapore Challenge Finalist (Top 10), the Global Young Scientists Summit (GYSS@one-north).
- 54.**2015:** Research Commercialization via Joint Venture Companies Award, NTUitive, NTU, Singapore.
- 55.**2014:** Singapore Challenge Finalist (Top 10), the Global Young Scientists Summit (GYSS@one-north).
- 56.**2011:** Best Paper Award, 13th IEEE International Conference on Communication Technology (ICCT'11).

Teaching Experience

- **2022 – present: CZ3005 – Artificial Intelligence**
 - Lecturer, Tutor, Lab Supervisor
- **2022: CET794 – Foundations of AI Ethics**
 - Course Designer, Lecturer
- **2021 – present: CET799 – Business Liability and Ethics in AI Usage**
 - Course Designer, Lecturer
- **2020 – present: AI6101 – Introduction to AI and AI Ethics**
 - Course Designer, Lecturer, Course Coordinator
- **2020: Responsible Artificial Intelligence for Social Good**
 - Course Designer, Lecturer
- **2020: CZ2003 – Computer Graphics and Visualization**
 - Lab Supervisor

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- **2019 – 2023: CZ3003 – Software Systems Analysis and Design**
 - Lecturer, Tutor, Lab Supervisor
- **2019: AI in Healthcare in the Age of Industry 4.0**
 - Course Designer, Lecturer
- **2018: CZ4031 – Database System Principles**
 - Lecturer, Tutor, Lab Supervisor
- **2015 – 2018: CZ2004 – Human-Computer Interaction**
 - Guest Lecturer, Tutor, Lab Supervisor, Technology Enhanced Learning (TEL)

Professional Services

- **Editorial Services for Journals:**
 - 1) Lead Guest Editor, Special Issue on Trustworthy Federated Learning, IEEE Transactions on Neural Networks and Learning Systems (TNNLS), 2023.
 - 2) Editor, Trustworthy Federated Learning, LNAI, 2023.
 - 3) Associate Editor, IEEE Transactions on Neural Networks and Learning Systems (TNNLS).
 - 4) Distinguished Review Board Member, ACM Transactions on Intelligent Systems and Technology (TIST).
 - 5) Associate Editor, International Journal of Crowd Science (IJCS).
 - 6) Guest Editor, Special Issue on Big Data Intelligence in Healthcare Applications Based on Physiological Signals, Journal of Healthcare Engineering, 2021.
 - 7) Editor, Federated Learning: Privacy and Incentive, 2020.
 - 8) Editorial Board Member, Frontiers in Sustainable Cities.
 - 9) Guest Editor, Special Issue on Big Data Intelligence in Healthcare Applications Based on Physiological Signals, Journal of Healthcare Engineering, 2019.
 - 10) Guest Editor, Special Issue on Federated Machine Learning, IEEE Intelligent Systems Journal, 2019.
 - 11) Associate Editor, the International Journal of Information Technology (IJIT).
- **Standardization**
 - 1) IEEE P2894 Explainable AI Standard Working Group.
 - 2) IEEE P3652 Federated Machine Learning Working Group.
- **Chair/Panel Services for Conferences:**
 - 1) Sponsorship Co-Chair, ACM on Web Conference 2025 (WWW'25), Sydney, Australia, 2025.
 - 2) Area Chair (AC), the 38th Conference on Neural Information Processing Systems (NeurIPS'24), Vancouver, BC, Canada, 2024.
 - 3) Senior Program Committee (SPC) Member, the 33rd International Joint Conference on Artificial Intelligence (IJCAI'24), Jeju, South Korea, 2024.
 - 4) Program Co-Chair, International Workshop on Federated Learning in the Age of Foundation Models in Conjunction with IJCAI 2024 (FL@FM-IJCAI'24), Jeju, South Korea, 2024.
 - 5) Co-Chair, Special Session on Trustworthy Federated Learning for Multimedia, the 2024 International Conference on Multimedia and Expo (ICME'24), Niagara Falls, ON, Canada, 2024.
 - 6) Program Co-Chair, International Workshop on Federated Learning and Foundation Models for Multimedia (FL@FM-ICME'24), Niagara Falls, ON, Canada, 2024.
 - 7) Co-Chair, Special Session on Trustworthy Federated Learning: In the Era of Foundation Models, the 2024 International Joint Conference on Neural Networks (IJCNN'24), Yokohama, Japan, 2024.
 - 8) Program Co-Chair, International Workshop on Federated Foundation Models for the Web 2024 (FL@FM-TheWebConf'24), Singapore, 2024.
 - 9) Session Chair, the 2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP'24), Seoul, South Korea, 2024.

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- 10) Senior Program Committee (SPC) Member, the 23rd International Conference on Autonomous Agents and Multiagent Systems (AAMAS'24), Auckland, New Zealand, 2024.
- 11) Senior Program Committee (SPC) Member, the 38th AAAI Conference on Artificial Intelligence (AAAI-24), Vancouver, BC, Canada, 2024.
- 12) Co-Organizer, International Workshop on Federated Learning in the Age of Foundation Models in Conjunction with NeurIPS (FL@FM-NeurIPS'23), New Orleans, LA, USA, 2023.
- 13) Co-Organizer, Workshop on Federated Learning in Australasia: When FL meets Foundation Models in Conjunction with AJCAI (FL@FM-AJCAI'23), Brisbane, Australia, 2023.
- 14) Sponsorship Co-Chair General, the 32nd International Joint Conference on Artificial Intelligence (IJCAI'23), Macau, 2023.
- 15) Industry Day Co-Chair, the 32nd International Joint Conference on Artificial Intelligence (IJCAI'23), Macau, 2023.
- 16) Senior Program Committee (SPC) Member, the 32nd International Joint Conference on Artificial Intelligence (IJCAI'23), Macau, 2023.
- 17) General Co-Chair, International Workshop on Trustworthy Federated Learning in Conjunction with IJCAI 2023 (FL-IJCAI'23), Macau, 2023.
- 18) Publicity Co-Chair, International Conference on AI for Medicine (iAIM'23), Singapore, 2023.
- 19) Senior Program Committee (SPC) Member, the 22nd International Conference on Autonomous Agents and Multiagent Systems (AAMAS'23), London, UK, 2023.
- 20) Co-Organizer, International Workshop on Federated Learning: Recent Advances and New Challenges in Conjunction with NeurIPS 2022 (FL-NeurIPS'22), New Orleans, LA, USA.
- 21) Program Co-Chair, International Workshop on Trustworthy Federated Learning in Conjunction with IJCAI 2022 (FL-IJCAI'22), Vienna, Austria, 2022.
- 22) Industry Day Co-Chair, the 31st International Joint Conference on Artificial Intelligence (IJCAI'22), Vienna, Austria, 2022.
- 23) Sponsorship Co-Chair, the 31st International Joint Conference on Artificial Intelligence (IJCAI'22), Vienna, Austria, 2022.
- 24) General Co-Chair, International Workshop on Trustable, Verifiable and Auditable Federated Learning in Conjunction with AAAI 2022 (FL-AAAI'22), Vancouver, BC, Canada, 2022.
- 25) Senior Program Committee (SPC) Member, the 36th AAAI Conference on Artificial Intelligence (AAAI-22), Vancouver, 2022.
- 26) Program Co-Chair, International Workshop on Federated and Transfer Learning for Data Sparsity and Confidentiality in Conjunction with IJCAI 2021 (FTL-IJCAI'21), Montreal, QB, Canada, 2021.
- 27) Co-Organizer, International Workshop on Federated Learning for User Privacy and Data Confidentiality in Conjunction with ICML 2021 (FL-ICML'21), Virtual, 2021.
- 28) Program Co-Chair, the 17th International Conference on Advanced Data Mining and Applications (ADMA'21), Sydney, Australia, 2021.
- 29) Industry Day Co-Chair, the 30th International Joint Conference on Artificial Intelligence (IJCAI'21), Montreal, QB, Canada, 2021.
- 30) Sponsorship Co-Chair, the 30th International Joint Conference on Artificial Intelligence (IJCAI'21), Montreal, QB, Canada, 2021.
- 31) Member, SIGAI Industry Award Committee, 2021.
- 32) Senior Program Committee (SPC) Member, the 30th International Joint Conference on Artificial Intelligence (IJCAI'21), Montreal, QB, Canada, 2021.
- 33) Program Co-Chair, the International Workshop on Federated and Transfer Learning for Data Sparsity and Confidentiality in Conjunction with IJCAI 2021 (FTL-IJCAI'20), Montreal, QB, Canada, 2021.

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- 34) Organizer, Parallel Session on the Ethics of Artificial Intelligence: Methods and Applications, the 13th International Conference on Social Computing and Social Media (SCSM'21), 2021.
- 35) Program Co-Chair, AAAI 2021 Workshop: Towards Robust, Secure and Efficient Machine Learning (RSEML'21), Online, 2021.
- 36) Senior Program Committee (SPC) Member, the 35th AAAI Conference on Artificial Intelligence (AAAI-21), Vancouver, BC, Canada, 2021.
- 37) Judge, the 2nd WeBank FinTechathon, Shenzhen, China, 2020.
- 38) Proposal Reviewer, Swiss National Science Foundation, 2020.
- 39) Industry Day Co-Chair, the 29th International Joint Conference on Artificial Intelligence (IJCAI'20), Yokohama, Japan, 2020.
- 40) Sponsorship Co-Chair, the 29th International Joint Conference on Artificial Intelligence (IJCAI'20), Yokohama, Japan, 2020.
- 41) Senior Program Committee (SPC) Member (Federated Learning), the 29th International Joint Conference on Artificial Intelligence (IJCAI'20), Yokohama, Japan, 2020.
- 42) Organizing Committee Member, IBM Workshop on Federated Learning and Analytics (FL-IBM'20), New York, NY, USA, 2020.
- 43) Session Chair, the 34th AAAI Conference on Artificial Intelligence (AAAI-20), New York, NY, USA, 2020.
- 44) Senior Program Committee Member, the 34th AAAI Conference on Artificial Intelligence (AAAI-20), New York, NY, USA, 2020.
- 45) Co-Chair, the 2nd International Workshop on Federated Learning for Data Privacy and Confidentiality (FL-NeurIPS'19), Vancouver, BC, Canada, 2019.
- 46) Co-Chair, Special Track on Federated Machine Learning, the 2019 IEEE International Conference on Big Data (IEEE BigData'19), Los Angeles, CA, USA, 2019.
- 47) Program Co-Chair, the 4th International Conference on Crowd Science and Engineering (ICCSE'19), Jinan, China, 2019.
- 48) Judge, the 1st WeBank FinTechathon, Shenzhen, China, 2019.
- 49) Publicity Co-Chair, the 28th International Joint Conference on Artificial Intelligence (IJCAI'19), Macau, 2019.
- 50) Session Chair, the 28th International Joint Conference on Artificial Intelligence (IJCAI'19), Macau, 2019.
- 51) Publicity Co-Chair, the International Workshop on Federated Machine Learning for User Privacy and Data Confidentiality (FL-IJCAI'19), Macau, 2019.
- 52) Co-Chair, Workshop on Artificial Intelligence Safety (AISafety), IJCAI, Macau, 2019.
- 53) Student Mentor, the 2nd AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES-19), Honolulu, HI, USA, 2019.
- 54) Proposal Reviewer, the Israeli Ministry of Science and Technology, 2018.
- 55) Panel Member, Workshop on Translating AI Technology into Healthcare Solutions, AI Singapore, Singapore, 2019.
- 56) Program Co-Chair, the 3rd IEEE International Conference on Agents (ICA'18), Singapore, 2018.
- 57) Local Organization Co-Chair, the 3rd International Conference on Crowd Science and Engineering (ICCSE'18), Singapore, 2018.
- 58) Chair, Special Session on Innovative Social Media and Computing Technologies for Aging Societies, the 20th International Conference on Human-Computer Interaction (HCI'18), Las Vegas, NV, USA, 2018.
- 59) Session Chair, the 32nd AAAI Conference on Artificial Intelligence (AAAI-18), New Orleans, LA, USA, 2018.
- 60) Session Chair, the 2nd IEEE International Conference on Agents (ICA'17), Beijing, China, 2017.
- 61) Session Chair, the 5th International Conference on Ageless Aging (ICAA'17), Beijing, China, 2017.

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- 62) Session Chair, the 2nd International Conference on Crowd Science and Engineering (ICCSE'17), Beijing, China, 2017.
- 63) Tutorial / Workshop / Demo / Special Track / Poster Chairs, the 2nd International Conference on Crowd Science and Engineering (ICCSE'17), Beijing, China, 2017.
- 64) Session Chair, the 1st International Conference on Crowd Science and Engineering (ICCSE'16), Vancouver, BC, Canada, 2016.
- 65) Panel Member, Industries of the Future, the IPS-CFE Conference on the Future Economy of Singapore, Singapore, 2016.
- 66) Co-Chair & Panel Member, Symposium on Interactive Games for Active Ageing, the 9th World Congress on Active Ageing (WCAA'16), Melbourne, VIC, Australia, 2016.
- 67) Session Chair, the 30th AAAI Conference on Artificial Intelligence (AAAI-16), Phoenix, AZ, USA, 2016.
- **Executive Positions in Professional Organizations:**
 - 1) Founding Member, the Association for Crowd Science and Engineering (ACE).
- **Review Services for Journals:**
 - 1) ACM Computers in Entertainment (CiE), ACM.
 - 2) ACM Computing Surveys (CSUR), ACM.
 - 3) ACM Transactions on Intelligent Systems and Technology (TIST), ACM.
 - 4) ACM Transactions on Internet Technology (TOIT), ACM.
 - 5) Ad Hoc Networks, Elsevier.
 - 6) AI Ethics Body of Knowledge, Singapore Computer Society.
 - 7) Algorithms, MDPI.
 - 8) Artificial Intelligence, Elsevier.
 - 9) Artificial Intelligence Review, Springer.
 - 10) CCF Transactions on Pervasive Computing and Interaction (TPCI), CCF.
 - 11) China Communications, IEEE.
 - 12) Communications of the ACM, ACM.
 - 13) Cognitive Computation, Springer.
 - 14) Computer, IEEE.
 - 15) Computer Communications, Elsevier.
 - 16) Decision Support Systems (DSS), Elsevier.
 - 17) Education Sciences, MDPI.
 - 18) Electronic Commerce Research and Applications (ECRA), Elsevier.
 - 19) Energy Reports, Elsevier.
 - 20) Engineering Applications of Artificial Intelligence (EAAI), Elsevier.
 - 21) Future Generation Computer Systems (FGCS), Elsevier.
 - 22) Government Information Quarterly (GIQ), Elsevier.
 - 23) IEEE Access, IEEE.
 - 24) IEEE Computational Intelligence Magazine (CIM), IEEE.
 - 25) IEEE Intelligent Systems Journal (IS), IEEE.
 - 26) IEEE Internet of Things Journal (IoT), IEEE.
 - 27) IEEE Journal on Selected Areas in Communications (JSAC), IEEE.
 - 28) IEEE Pervasive Computing (PerCom), IEEE.
 - 29) IEEE Transactions on Artificial Intelligence (TAI), IEEE.
 - 30) IEEE Transactions on Big Data (TBD), IEEE.
 - 31) IEEE Transactions on Cloud Computing (TCC), IEEE.
 - 32) IEEE Transactions on Knowledge and Data Engineering (TKDE), IEEE.
 - 33) IEEE Transactions on Mobile Computing (TMC), IEEE.

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- 34) IEEE Transactions on Parallel and Distributed Systems (TPDS), IEEE.
- 35) IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), IEEE.
- 36) IEEE Transactions on Sustainable Computing (T-SUSC), IEEE.
- 37) IEEE Transactions on Vehicular Technology (TVT), IEEE.
- 38) IEEE/ACM Transactions on Networking (ToN), IEEE/ACM.
- 39) International Journal of Crowd Science (IJCS), Emerald.
- 40) International Journal of Hospitality Management (IJHM), Elsevier.
- 41) International Journal of Information Technology (IJIT), Singapore Computer Society (SCS).
- 42) International Journal of Machine Learning and Cybernetics (JMLC), Springer.
- 43) International Journal of Software Engineering and Knowledge Engineering (IJSEKE), World Scientific.
- 44) Journal of Artificial Intelligence Research (JAIR), AAAI Press.
- 45) Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS), Springer.
- 46) Journal of Business Research (JBR), Elsevier.
- 47) Journal of Retailing and Consumer Services (JRCS), Elsevier. (Outstanding Reviewer Award, 2018)
- 48) Journal of Systems Science and Systems Engineering (JSSSE), Springer.
- 49) Journal of Technology in Society (TIS), Elsevier.
- 50) Journal of Urban Management (JUM), Elsevier.
- 51) Knowledge-Based Systems (KBS), Elsevier.
- 52) Multiagent and Grid Systems (MGS), IOS Press.
- 53) Nature Communications, SpringerNature.
- 54) Nature Computational Science, SpringerNature.
- 55) Patterns, Cell Press.
- 56) PLoS ONE.
- 57) Progress in Artificial Intelligence (PRAI), SpringerNature.
- 58) Scientific Reports, SpringerNature.
- 59) Sensors, MDPI.
- 60) Social Sciences, MDPI.
- 61) Sustainability, MDPI.
- 62) Technology in Society, Elsevier.
- 63) Web Intelligence and Agent Systems (WIAS), IOS Press.
- 64) 《计算机学报》中国科学院计算技术研究所

- **Review/Program Committee Services for Conferences:**

- 1) The 41st International Conference on Machine Learning (ICML'24), Vienna, Austria, 2024.
- 2) The 2024 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR'24), Seattle, USA.
- 3) The 12th International Conference on Learning Representations (ICLR'24), Vienna, Austria, 2024.
- 4) The 23rd International Conference on Autonomous Agents and Multi-agent Systems (AAMAS'24), Auckland, New Zealand, 2024.
- 5) The 37th Conference on Neural Information Processing Systems (NeurIPS'23), New Orleans, LA, USA, 2023.
- 6) The 32nd ACM International Conference on Information and Knowledge Management (CIKM'23), Birmingham, UK, 2023.
- 7) The ACM Web Conference 2023 (WWW'23), Austin, TX, USA, 2023.
- 8) The 28th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD'22), Washington DC, USA, 2022.
- 9) The 31st International Joint Conference on Artificial Intelligence (IJCAI'22), Vienna, Austria, 2022.
- 10) The 36th AAAI Conference on Artificial Intelligence (AAAI-22), Vancouver, Canada, 2022.
- 11) The 31st IEEE Visualization Conference (VIS'21), 2021.

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- 12) The 2021 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR'21), 2021.
- 13) 30th The Web Conference (WWW'21), Ljubljana, Slovenia, 2021.
- 14) The 30th International Joint Conference on Artificial Intelligence (IJCAI'21), Virtual, 2021.
- 15) The 35th AAAI Conference on Artificial Intelligence (AAAI-21), Virtual, 2021.
- 16) The 17th IEEE International Conference on Ubiquitous Intelligence and Computing (UIC'20), 2020.
- 17) ICML Workshop on Incentives in Machine Learning (IML'20), Vienna, Austria, 2020.
- 18) The 40th IEEE International Conference on Distributed Computing Systems (ICDCS'20), Singapore, 2020.
- 19) The 29th International Joint Conference on Artificial Intelligence (IJCAI'20), Yokohama, Japan, 2020.
- 20) The 34th AAAI Conference on Artificial Intelligence (AAAI-20), New York, NY, USA, 2020.
- 21) The 23rd International Symposium on Wearable Computers (ISWC'19), London, UK, 2019.
- 22) The 28th International Joint Conference on Artificial Intelligence (IJCAI'19), Macau, 2019.
- 23) The 16th IEEE International Conference on Ubiquitous Intelligence and Computing (UIC'19), Leicester, UK, 2019.
- 24) The 33rd AAAI Conference on Artificial Intelligence (AAAI-19), Honolulu, HI, USA, 2019.
- 25) The 2nd International Conference on Computer Science and Application Engineering (CSAE'18), Hohhot, China, 2018.
- 26) The 2018 IEEE/WIC/ACM International Conference on Web Intelligence (WI'18), Santiago, Chile, 2018.
- 27) The 15th Pacific Rim International Conference on Artificial Intelligence (PRICA'18), Nanjing, China, 2018.
- 28) The 27th International Joint Conference on Artificial Intelligence and the 23rd European Conference on Artificial Intelligence (IJCAI-ECAI-18), Stockholm, Sweden, 2018.
- 29) The 20th International Conference on Human-Computer Interaction (HCI'18), Las Vegas, NV, USA, 2018.
- 30) The 17th International Conference on Autonomous Agents and Multi-agent Systems (AAMAS'18), Stockholm, Sweden, 2018.
- 31) The 32nd AAAI Conference on Artificial Intelligence (AAAI-18), New Orleans, LA, USA, 2018.
- 32) The 2nd IEEE International Conference on Agents (ICA'17), Beijing, China, 2017.
- 33) The 5th International Conference on Ageless Aging (ICAA'17), Beijing, China, 2017.
- 34) The 2nd International Conference on Crowd Science and Engineering (ICCSE'17), Beijing, China, 2017.
- 35) The 2017 IEEE/WIC/ACM International Conference on Web Intelligence (WI'17), Leipzig, Germany, 2017.
- 36) The 26th International Joint Conference on Artificial Intelligence (IJCAI'17), Melbourne, VIC, Australia, 2017.
- 37) The AAMAS Workshop on Crowdsourcing and Multiagent Systems (CMAS), Sao Paulo, Brazil, 2017.
- 38) The 31st AAAI Conference on Artificial Intelligence (AAAI-17), San Francisco, CA, USA, 2017.
- 39) The 1st International Conference on Crowd Science and Engineering (ICCSE'16), Vancouver, BC, Canada, 2016.
- 40) The 1st International Conference on Agents (ICA'16), Kunibiki Messe, Matsue, Japan, 2016.
- 41) The 2016 IEEE/WIC/ACM International Conference on Web Intelligence (WI'16), Omaha, NE, USA, 2016.
- 42) The 25th International Joint Conference on Artificial Intelligence (IJCAI'16), New York, NY, USA, 2016.
- 43) The 30th AAAI Conference on Artificial Intelligence (AAAI-16), Phoenix, AZ, USA, 2016.
- 44) The 2015 IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT'15), Singapore, 2015.
- 45) The 33rd Annual ACM SIGCHI Conference on Human Factors in Computing Systems (CHI'15), Seoul, South Korea, 2015.
- 46) The 14th International Conference on Autonomous Agents and Multi-agent Systems (AAMAS'15), Istanbul, Turkey, 2015.
- 47) The 2013 International Conference on Ageless Aging (ICAA'13), Vancouver, BC, Canada, 2013.

Patents

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Han Yu, Nanyang Technological University, Singapore

- [1] Y. Liu, **H. Yu**, T. Chen & Q. Yang, "Method and Device for Determining Participants in Federal Learning Alliance," Patent No. **CN112308720B**, 03/05/2024.
- [2] X. Wei, **H. Yu**, M. Li, Z. Jin, S. Wei, M. Zheng, Q. Li, X. Cao, Y. Liu & T. Chen, "Calculation Method, Device and Equipment of Performance Value and Readable Storage Medium," Patent No. **CN111291991B**, 27/02/2024.
- [3] Y. Liu, **H. Yu**, T. Chen & Q. Yang, "Method and Device for Determining Labor Plan," Patent No. **CN111310105B**, 21/04/2023.
- [4] Y. Liu, **H. Yu**, T. Chen & Q. Yang, "Task Allocation Method, Device, Terminal and Storage Medium," Patent No. **CN110414864B**, 12/04/2022.
- [5] Y. Liu, **H. Yu**, T. Chen & Q. Yang, "Method and Device for Determining Contribution Degree of Participant," Patent No. **CN110717671B**, 31/08/2021.
- [6] Y. Liu, **H. Yu**, T. Chen & Q. Yang, "Attack Coping Method and Federal Learning Device," Patent No. **CN111445031B**, 27/07/2021.
- [7] Y. Liu, **H. Yu**, T. Chen & Q. Yang, "User Indexing Method in Federated Learning and Federated Learning Device," Patent No. **CN111428885B**, 04/06/2021.
- [8] **H. Yu**, C. Miao, Z. Shen & C. Leung, "Method and Apparatus for Algorithmic Control of the Acceptance of Orders by an E-Commerce Enterprise," Patent No. **10,970,772**, 06/04/2021.
- [9] **H. Yu**, C. Miao, Z. Shen & C. Leung, "Method and Apparatus for Algorithmic Control of the Acceptance of Orders by an E-Commerce Enterprise," Patent No. **CN106133779B**, 02/03/2021.

Research Grants

- [1] **2024–2027**: Principal Investigator, "Toolkit for Improving Security and Privacy - Privacy Preservation Through Efficient Federated Learning", Alibaba-NTU Global e-Sustainability CorpLab (ANGEL), S\$1,135,000.
- [2] **2022–2025**: Co-Principal Investigator, "Towards Real-time, Seamless, and Ubiquitous Edge Intelligence-empowered Metaverse", Future Communications Research & Development Programme (FCP) Grant (No. FCP-NTU-RG-2021-014), S\$499,999.50.
- [3] **2021–2025**: Co-Principal Investigator, "TrustFUL: Trustworthy Federated Ubiquitous Learning", AI Singapore Research Programme Grant (No. AISG2-RP-2020-019), S\$6,883,200.
- [4] **2020–2022**: Principal Investigator, "Towards an Ecosystem for Federated Learning Incentive", The NTU-WeBank Joint Research Centre on FinTech Grant (No. NWJ-2020-008), S\$200,000.
- [5] **2020–2022**: Co-Principal Investigator, "User Experience and Trust in Mobile Banking", The NTU-WeBank Joint Research Centre on FinTech Grant (No. NWJ-2020-009), S\$200,000.
- [6] **2020–2024**: Co-Principal Investigator, "Next-Generation Brain-Computer-Brain Platform – A Holistic Solution for the Restoration & Enhancement of Brain Functions (NOURISH)", A*STAR AME Programmatic Fund (No. A20G8b0102), S\$9,950,280.
- [7] **2019–2020**: Principal Investigator, "Incentive Mechanism Design for Federated Machine Learning", The NTU-WeBank Joint Research Centre on FinTech Grant (No. NWJ-2019-007), S\$100,000.
- [8] **2019–2020**: Co-Principal Investigator, "User Experience Study for Online Banking Products", The NTU-WeBank Joint Research Centre on FinTech Grant, S\$100,000.
- [9] **2019–2021**: Co-Principal Investigator, "An End-to-end Adaptive AI-Assisted 3H Care (A3C) System", AI Singapore Grand Challenge Grant, S\$4,600,000.
- [10] **2018–2022**: Principal Investigator, "AI-Powered Crowd-computing (AIPC)", Nanyang Assistant Professorship (NAP) Grant, Nanyang Technological University (NTU), Singapore, S\$1,000,000.
- [11] **2017–2020**: Investigator, "ADL+: A Digital Toolkit for Cognitive Assessment and Intervention", Ministry of Health (MOH), Singapore, S\$2,114,000.
- [12] **2017–2019**: Investigator, "An AI-Powered Big Data Platform for Analytics and Intervention in Pain Management", Ministry of Education (MOE) Tier 1 Grant, S\$100,000.
- [13] **2015–2018**: Principal Investigator, "Intelligent Personalized Crowdsourcing for Productive Aging", Lee Kuan Yew Endowment Fund, Singapore, S\$180,000.

Research Publications

Books

Curriculum Vitae

Han Yu, Nanyang Technological University, Singapore

- [1] Goebel, R., **Yu, H.**, Faltings, B., Fan, L. & Xiong, Z. (Eds.). (2023). *Trustworthy Federated Learning*. Lecture Notes in Artificial Intelligence, vol. 13448, p. 158. Springer, Cham.
- [2] Yang, Q., Fan, L. & **Yu, H.** (Eds.). (2020). *Federated Learning: Privacy and Incentive*. Lecture Notes in Computer Science, vol. 12500, p. 282. Springer, Cham.
- [3] 杨强、刘洋、程勇、康炎、陈天健、于涵 《联邦学习》 电子工业出版社, p. 208, 2020.
- [4] Yang, Q., Liu, Y., Cheng, Y., Kang, Y., Chen, T. & **Yu, H.** (2020). *Federated Learning*. Synthesis Lectures on Artificial Intelligence and Machine Learning, p. 189. Springer, Cham.

Book Chapters

- [5] Liu, Y., Ai, Z., Sun, S., Zhang, S., Liu, Z. & **Yu, H.** (2020). *FedCoin: A Peer-to-Peer Payment System for Federated Learning*. In: Yang, Q., Fan, L. & Yu, H. (Eds.). *Federated Learning: Privacy and Incentive*, pp. 125–138. Springer, Cham.
- [6] Lyu, L., **Yu, H.**, Zhao, J. & Yang, Q. (2020). *Threats to Federated Learning*. In: Yang, Q., Fan, L. & Yu, H. (Eds.). *Federated Learning: Privacy and Incentive*, pp. 1–14. Springer, Cham..
- [7] Chen, Y., Wang, X., Qin, X., **Yu, H.**, Chen, B. & Shen, Z. (2020). *Dealing with Label Quality Disparity in Federated Learning*. In: Yang, Q., Fan, L. & Yu, H. (Eds.). *Federated Learning: Privacy and Incentive*, pp. 106–120. Springer, Cham.
- [8] Chen, Z., Liu, Z., Ng, K. L., **Yu, H.**, Liu, Y. & Yang, Q. (2020). *A Gamified Research Tool for Incentive Mechanism Design in Federated Learning*. In: Yang, Q., Fan, L. & Yu, H. (Eds.). *Federated Learning: Privacy and Incentive*, pp. 164–171. Springer, Cham.
- [9] Lyu, L., Xu, X., Wang, Q. & **Yu, H.** (2020). *Collaborative Fairness in Federated Learning*. In: Yang, Q., Fan, L. & Yu, H. (Eds.). *Federated Learning: Privacy and Incentive*, pp. 185–199. Springer, Cham.
- [10] Cong, M., **Yu, H.**, Weng, X. & Yiu, S.-M. (2020). *A Game-Theoretic Framework for Incentive Mechanism Design in Federated Learning*. In: Yang, Q., Fan, L. & Yu, H. (Eds.). *Federated Learning: Privacy and Incentive*, pp. 200–217. Springer, Cham.
- [11] **Yu, H.**, Weng, J., Ong, Y. S. & Cong, G. (2020). *Data Management*. In: Chellam, R. (Ed.). *The AI Ethics & Governance Body of Knowledge (AI E&G BoK)*, Singapore Computer Society.
- [12] **Yu, H.**, Miao, C., An, B., Shen, Z. & Leung, C. (2018). *Making Efficient Reputation-aware Decisions in Multi-agent Systems*. In: Hao, J. & Leung, H.-F. (Eds.). *Interactions in Multiagent Systems*, pp. 43–64. World Scientific, Singapore.
- [13] Tao, X., Shen, Z., Miao, C., Theng, Y. L., Miao, Y. & **Yu, H.** (2010). *Automated Negotiation through a Cooperative-Competitive Model*. In: Ito, T., Zhang, M., Robu, V., Fatima, S., Matsuo, T. & Yamaki, H. (Eds.). *Innovations in Agent-Based Complex Automated Negotiations*. Studies in Computational Intelligence, vol. 319, pp. 161–178. Springer, Berlin, Heidelberg.

International Journal Articles

- [14] **[IEEE JSTSP]** Ren, C., Dong, Z., **Yu, H.**, Xu, M., Xiong, Z. & Niyato, D. ESQFL: Digital twin-driven explainable and secured quantum federated learning for voltage stability assessment in smart grids. *IEEE Journal of Selected Topics in Signal Processing*, IEEE (2024). [\[IF: 8.7\]](#)
- [15] **[IEEE IoT]** Chen, Y., Tan, A., Feng, S., **Yu, H.**, Deng, T., Zhao, L. & Wu, F. General federated class-incremental learning with lightweight generative replay. *IEEE Internet of Things Journal*, doi:10.1109/JIOT.2024.3434600, IEEE (2024). [\[IF: 10.6\]](#)
- [16] **[IEEE IoT]** Tang, X. & **Yu, H.** Efficient large-scale personalizable bidding for multi-agent auction-based federated learning. *IEEE Internet of Things Journal* **11**(15), 26518–26530, IEEE (2024). [\[IF: 10.6\]](#)
- [17] **[ACM TORS]** Chen, Y., Huzhang, G., Yu, Q., Sun, H., Li, H.-Y., Li, J., Ni, Y., Zeng, A., **Yu, H.** & Zhou, Z. Learning personalizable clustered embedding for recommender systems. *ACM Transactions on Recommender Systems*, ACM (2024).
- [18] **[IEEE TNNLS]** Lyu, L., **Yu, H.**, Ma, X., Chen, C., Sun, L., Zhao, J., Yang, Q. & Yu, P. S. Privacy and robustness in federated learning: Attacks and defenses. *IEEE Transactions on Neural Networks and Learning Systems* **35**(7), 8726–8746, IEEE (2024). [\[IF: 10.4\]](#)
- [19] **[PACMMOD]** Li, A., Chen, Y., Zhang, J., Cheng, M., Huang, Y., Wu, Y., Luu, A. T. & **Yu, H.** Historical embedding-guided efficient large-scale federated graph learning. *Proceedings of the ACM on Management of Data* **2**(3), 144:1–144:24, ACM (2024).

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- [21] [NN] Li, Q., Feng, B., Tang, X., Yu, H. & Song, H. MuLAN: Multi-level attention-enhanced matching network for few-shot knowledge graph completion. *Neural Networks*, Elsevier (2024). [IF: 7.8]
- [22] [IEEE TNNLS] Liu, R., Xing, P., Deng, Z., Li, A., Guan, C. & Yu, H. Federated graph neural networks: Overview, techniques and challenges. *IEEE Transactions on Neural Networks and Learning Systems*, IEEE (2024). [IF: 10.4]
- [23] [NN] Liu, R., Chen, Y., Li, A., Ding, Y., Yu, H. & Guan, G. Aggregating intrinsic information to enhance BCI performance through federated learning. *Neural Networks*, Elsevier (2024). [IF: 7.8]
- [24] [IEEE TITS] Liu, S., You, L., Zhu, R., Liu, B., Liu, R., Yu, H. & Yuen, C. AFM3D: An asynchronous federated meta-learning framework for driver distraction detection. *IEEE Transactions on Intelligent Transportation Systems*, IEEE (2024). [IF: 8.5]
- [25] [IEEE TNNLS] Tan, A. Z., Yu, H., Cui, L. & Yang, Q. Towards personalized federated learning. *IEEE Transactions on Neural Networks and Learning Systems* 34(12), 9587–9603, IEEE (2023). [IF: 10.4]
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- [29] [PACMMOD] Li, A., Cao, Y., Guo, J., Peng, H., Guo, Q. & Yu, H. FedCSS: Joint client-and-sample selection for hard sample-aware noise-robust federated learning. *Proceedings of the ACM on Management of Data* 1(3), 212:1–212:24, ACM (2023).
- [30] [IEEE JAS] Ren, C., Zou, C., Xiong, Z., Yu, H., Dong, Z. Y. & Niyato, D. Achieving 500x acceleration for adversarial robustness verification of tree-based smart grid dynamic security assessment. *IEEE/CAA Journal of Automatica Sinica*, IEEE (2023). [IF: 11.8]
- [31] [IEEE IoT] Ren, C., Yan, R., Xu, M., Yu, H., Xu, Y., Niyato, D. & Dong, Z. D. QFDSA: A quantum-secured federated learning system for smart grid dynamic security assessment. *IEEE Internet of Things Journal*, IEEE (2023). [IF: 10.6]
- [32] [IEEE IoT] Ren, C., Yu, H., Yan, R., Li, Q., Xu, Y., Niyato, D. & Dong, Z. Y. SecFedSA: A secure differential privacy-based federated learning approach for smart cyber-physical grid stability assessment. *IEEE Internet of Things Journal*, IEEE (2023). [IF: 10.6]
- [33] [IEEE IoT] Kaewpuang, R., Xu, M., Lim, W. Y. B., Niyato, D., Yu, H., Kang, J. & Shen, X. Cooperative resource management in quantum key distribution networks for semantic communication. *IEEE Internet of Things Journal*, IEEE (2023). [IF: 10.6]
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- [35] [ACM CSUR] Liu, C. & Yu, H. AI-empowered persuasive video generation: A survey. *ACM Computing Surveys* 55(13), 285:1–285:31, ACM (2023). [IF: 16.062]
- [36] [CSEE JPES] Ren, C., Yu, H., Xu, Y., Dong, Z. Y. Understanding discrepancy of power system dynamic security assessment with unknown faults: A reliable transfer learning-based method. *CSEE Journal of Power and Energy Systems*, CSEE (2023). [IF: 6.016]
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Han Yu, Nanyang Technological University, Singapore

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- [41] [IEEE TVT] Kaewpuang, R., Sawadsitang, S., Niyato, D. & **Yu, H.** Evolutionary carrier selection for shared truck delivery services. *IEEE Transactions on Vehicular Technology*, doi:10.1109/TVT.2022.3229360, IEEE (2023). [IF: 6.239]
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- [44] [AI Mag.] Liu, Z., Chen, Y., Zhao, Y., **Yu, H.**, Liu, Y., Bao, R., Jiang, J., Nie, Z., Xu, Q. & Yang, Q. CAreFL: Enhancing smart healthcare with contribution-aware federated learning. *AI Magazine*, doi:10.1002/aaai.12082, AAAI Press (2023). [IF: 2.524]
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- [48] Zhang, J., Shu, Y. & **Yu, H.** Fairness in Design: A framework for facilitating ethical AI designs. *International Journal of Crowd Science* **7**(1), 32–39, Tsinghua University Press (2023).
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- [57] [IEEE TBD] Wu, X. & **Yu, H.** MarS-FL: Enabling competitors to collaborate in federated learning. *IEEE Transactions on Big Data*, doi:10.1109/TBDATA.2022.3186991, IEEE (2022). [IF: 4.271]
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- [59] [IEEE Network] Xie, Y.-A., Kang, J., Niyato, D., Van, N. T. T., Luong, N. C., Liu, Z. & **Yu, H.** Securing federated learning: A covert communication-based approach. *IEEE Network*, IEEE (2022). [IF: 10.294]

- [60] [IEEE TII] Liu, R. W., Liang, M., Nie, J., Yuan, Y., Xiong, Z., **Yu, H.** & Guizani, N. STMGCN: Mobile edge computing-empowered vessel trajectory prediction using spatio-temporal multi-graph convolutional network. *IEEE Transactions on Industrial Informatics*, doi:10.1109/TII.2022.3165886, IEEE (2022). [IF: 11.648]
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- [63] [ACM TIST] Liu, Z., Chen, Y., **Yu, H.**, Liu, Y. & Cui, L. GTG-Shapley: Efficient and accurate participant contribution evaluation in federated learning. *ACM Transactions on Intelligent Systems and Technology* 13(4), 60:1–60:21, ACM (2022). [IF: 10.489]
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- [65] [IEEE TKDE] Zhang, Y., Wang, J., Chen, Y., **Yu, H.** & Qin, T. Adaptive memory networks with self-supervised learning for unsupervised anomaly detection. *IEEE Transactions on Knowledge and Data Engineering*, doi:10.1109/TKDE.2021.3139916, IEEE (2022). [IF: 9.235]
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- [70] [KBS] Liu, Y., Zou, X. & **Yu, H.** 3R Model: A post-purchase context-aware reputation model to mitigate unfair ratings in e-commerce. *Knowledge-Based Systems* 231, doi:10.1016/j.knosys.2021.107441, Elsevier (2021). [IF: 8.139]
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- [262] [WI-IAT'15] S. Liu, C. Miao, Y. Liu, **H. Yu**, J. Zhang & C. Leung, "An Incentive Mechanism to Elicit Truthful Opinions for Crowdsourced Multiple Choice Consensus Tasks," in *Proceedings of the 2015 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT'15)*, pp. 96–103, 2015.
- [263] [WI-IAT'15] Z. Pan, C. Miao, B. T. H. Tan, **H. Yu** & C. Leung, "Agent Augmented Inter-generational Crowdsourcing," in *Proceedings of the 2015 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT'15)*, pp. 237–238, 2015. ([Best Demo Award](#))
- [264] [WI-IAT'15] Z. Pan, C. Miao, **H. Yu**, C. Leung & J. J. Chin, "The Effects of Familiarity in Design on the Adoption of Wellness Games by the Elderly," in *Proceedings of the 2015 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT'15)*, pp. 387–390, 2015.
- [265] [WI-IAT'15] B. Li, **H. Yu**, Z. Shen, L. Cui & V. R. Lesser, "An Evolutionary Optimization based Multi-Agent Organization Framework," in *Proceedings of the 2015 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT'15)*, pp. 35–38, 2015.
- [266] [WI-IAT'15] H. Lin, J. Hou, **H. Yu**, Z. Shen & C. Miao, "An Agent-based Game Platform for Exercising People's Prospective Memory," in *Proceedings of the 2015 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT'15)*, pp. 235–236, 2015.
- [267] A. Borjigin, C. Miao, Z. Shen, **H. Yu**, S. F. Lim, T. H. Tan, Z. Zeng, Y. Guo, S. Fauvel, Y. Qiu, K. H. Pang & J. Ji, "Goal Oriented Teachable Agent in Virtual Learning Environment," *the 24th International Joint Conference in Artificial Intelligence (IJCAI'15)*, 2015. ([Best Application Video Award](#))
- [268] S. Liu, C. Miao, Y. Liu, H. Fang, **H. Yu**, J. Zhang & C. Leung, "A Reputation Revision Mechanism for Mitigating the Negative Effect of Misreported Reputation Ratings," in *Proceedings of the 17th International Conference on Electronic Commerce (ICEC'15)*, pp. 7:1–7:8, 2015.
- [269] C. Leung, Z. Shen, H. Zhang, Q. Wu, J. C. Leung, K. H. Pang, **H. Yu** & C. Miao, "Aging in-Place: From Unobtrusive Sensing to Graceful Aging," in *Proceedings of the 24th Annual John K. Friesen Conference "Harnessing Technology for Aging-in-Place"*, 2015.
- [270] [AAMAS'15] J. Lin, **H. Yu**, C. Miao & Z. Shen, "An Affective Agent for Studying Composite Emotions," in *Proceedings of the 14th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'15)*, pp. 1947–1948, 2015.
- [271] [AAMAS'15] **H. Yu**, C. Miao, Z. Shen & C. Leung, "Quality and Budget aware Task Allocation for Spatial Crowdsourcing," in *Proceedings of the 14th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'15)*, pp. 1689–1690, 2015.
- [272] [AAMAS'15] **H. Yu**, H. Lin, S. F. Lim, J. Lin, Z. Shen & C. Miao, "Empirical Analysis of Reputation-aware Task Delegation by Humans from a Multi-Agent Game," in *Proceedings of the 14th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'15)*, pp. 1687–1688, 2015.
- [273] [AAAI-15] C. Miao, C. Leung, **H. Yu**, D. W. Ng, H. Zhang, Q. Wu, F. Xiao, Y. Qiu, J. Leung & Z. Shen, "AI for Aging in-Place," *the 30th AAAI Conference on Artificial Intelligence (AAAI-15)*, 2015. ([Best Video – People's Choice Award Nomination](#))
- [274] [AAAI-15] **H. Yu**, C. Miao, Z. Shen, C. Leung, Y. Chen & Q. Yang, "Efficient Task Sub-delegation for Crowdsourcing," in *Proceedings of the 29th AAAI Conference on Artificial Intelligence (AAAI-15)*, pp. 1305–1311, 2015.
- [275] J.-P. Mei, **H. Yu**, Y. Liu, Z. Shen & C. Miao, "A Social Trust Model Considering Trustees' Influence," in *Proceedings of the 17th International Conference on Principles and Practice of Multi-Agent Systems (PRIMA'14)*, pp. 357–364, 2014.
- [276] [ASE'14] J. Lin, **H. Yu**, Z. Shen & C. Miao, "Studying Task Allocation Decisions of Novice Agile Teams with Data from Agile Project Management Tools," in *Proceedings of the 29th IEEE/ACM International Conference on Automated Software Engineering (ASE'14)*, pp. 689–694, 2014.

- [277] [AAAI-14] Y. Liu, S. Liu, H. Fang, J. Zhang, **H. Yu** & C. Miao, "RepRev: Mitigating the Negative Effects of Misreported Ratings," in *Proceedings of the 28th AAAI Conference on Artificial Intelligence (AAAI-14)*, pp. 3124–3125, 2014.
- [278] [AAAI-14] Y. Liu, J. Zhang, **H. Yu** & C. Miao, "Reputation-aware Continuous Double Auction," in *Proceedings of the 28th AAAI Conference on Artificial Intelligence (AAAI-14)*, pp. 3126–3127, 2014.
- [279] J. Lin, **H. Yu**, Z. Shen & C. Miao, "Using Goal Net to Model User Stories in Agile Software Development," in *Proceedings of the 15th IEEE/ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD'14)*, pp. 1–6, 2014.
- [280] [AAMAS'14] Y. Cai, Z. Shen, S. Liu, **H. Yu**, J. Ji, M. McKeown, C. Leung & C. Miao, "An Agent-based Game for the Predictive Diagnosis of Parkinson's Disease," in *Proceedings of the 13th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'14)*, pp. 1663–1664, 2014.
- [281] [AAMAS'14] **H. Yu**, X. Yu, S.F. Lim, J. Lin, Z. Shen & C. Miao, "A Multi-Agent Game for Studying Human Decision-making," in *Proceedings of the 13th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'14)*, pp. 1661–1662, 2014.
- [282] [AAMAS'14] **H. Yu**, C. Miao, B. An, Z. Shen & C. Leung, "Reputation-aware Task Allocation for Human Trustees," in *Proceedings of the 13th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'14)*, pp. 357–364, 2014.
- [283] **H. Yu**, Z. Shen & C. Leung, "Bringing Reputation-awareness into Crowdsourcing," in *Proceedings of the 9th International Conference on Information, Communications and Signal Processing (ICICS'13)*, pp. 1–5, 2013.
- [284] **H. Yu**, Z. Shen & C. Leung, "From Internet of Things to Internet of Agents," in *Proceedings of the 2013 IEEE International Conference on Internet of Things (iThings'13)*, pp.1054–1057, 2013.
- [285] [IJCAI'13] **H. Yu**, C. Miao, B. An, C. Leung & V. R. Lesser, "A Reputation Management Approach for Resource Constrained Trustee Agents," in *Proceedings of the 23rd International Joint Conference on Artificial Intelligence (IJCAI'13)*, pp. 418–424, 2013.
- [286] [AAMAS'13] S. Liu, **H. Yu**, C. Miao & A. C. Kot, "A Fuzzy Logic based Reputation Model against Unfair Ratings," in *Proceedings of the 12th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'13)*, pp. 821–828, 2013.
- [287] [AAMAS'13] **H. Yu**, Z. Shen, C. Miao & B. An, "A Reputation-aware Decision-making Approach for Improving the Efficiency of Crowdsourcing Systems," in *Proceedings of the 12th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'13)*, pp. 1315–1316, 2013.
- [288] [AAMAS'13] Q. Wu, X. Han, **H. Yu**, Z. Shen & C. Miao, "The Innovative Applications of Learning Companions in Chronicles of Singapura," in *Proceedings of the 12th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'13)*, pp. 1171–1172, 2013.
- [289] [WI-IAT'12] **H. Yu**, Z. Shen, C. Miao & B. An, "Challenges and Opportunities for Trust Management in Crowdsourcing," in *Proceeding of the IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT'12)*, pp. 486–493, 2012.
- [290] **H. Yu**, Z. Shen & B. An, "An Adaptive Witness Selection Method for Reputation-based Trust Models," in *Proceedings of the 15th International Conference on Principles and Practice of Multi-Agent Systems (PRIMA'12)*, pp. 184–198, 2012.
- [291] **H. Yu**, C. Leung & C. Miao, "A Simple, General and Robust Trust Agent to Help the Elderly Select online Services," in *Proceedings of the 2nd Southeast Asian Network of Ergonomics Societies Conference (SEANES'12)*, pp. 1–5, 2012.
- [292] H. Song, Z. Shen, **H. Yu** & Y. Chen, "Probabilistic-based Scheduling for Runtime Goal Sequence of Agents," in *Proceedings of the 2012 International Conference on Computer Science and Automation Engineering (CSAE'12)*, pp. 490–494, 2012.
- [293] **H. Yu**, S. Liu, A.C. Kot, C. Miao & C. Leung, "Dynamic Witness Selection for Trustworthy Distributed Cooperative Sensing in Cognitive Radio Networks," in *Proceedings of the 13th IEEE International Conference on Communication Technology (ICCT'11)*, pp. 1–6, 2011. (**Best Paper Award**)
- [294] [AAMAS'11] **H. Yu**, Z. Shen, C. Miao & A.-H. Tan, "A Simple Curious Agent to Help People be Curious," in *Proceedings of the 10th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'11)*, pp. 1159–1160, 2011.

Curriculum Vitae

Han Yu, Nanyang Technological University, Singapore

- [295] J. Lin, C. Miao & **H. Yu**, "A Cloud & Agent Based Architecture Design for an Educational Mobile SNS Game," in *Proceedings of the 6th International Conference on E-learning and Games (Edutainment'11)*, pp. 212–219, 2011.
- [296] Z. Shen, C. Miao, L. Zhang, **H. Yu** & M. J. Chavez, "An Emotion Aware Agent Platform for Interactive Storytelling and Gaming," in *Proceedings of the International Academic Conference on the Future of Game Design and Technology (Futureplay'10)*, pp. 257–258, 2010.
- [297] **[IUI'10]** **H. Yu**, Y. Cai, Z. Shen, X. Tao & C. Miao, "Agents as Intelligent User Interfaces for the Net Generation," in *Proceedings of the 15th International Conference on Intelligent User Interfaces (IUI'10)*, pp. 429–430, 2010.
- [298] **H. Yu**, Z. Shen & C. Miao, "A Trustworthy Beacon-based Location Tracking Model for Body Area Sensor Networks in m-Health," in *Proceedings of the 7th International Conference on Information, Communications and Signal Processing (ICICS'09)*, doi:10.1109/ICICS.2009.5397622, 2009. (Best Paper Award Nomination)
- [299] L. Pan, X. Meng, Z. Shen & **H. Yu**, "A Reputation Pattern for Service Oriented Computing," in *Proceedings of the 7th International Conference on Information, Communications and Signal Processing (ICICS'09)*, doi:10.1109/ICICS.2009.5397618, 2009.
- [300] **H. Yu**, C. Miao, X. Tao, Z. Shen, Y. Cai, B. Li & Y. Miao, "Teachable Agents in Virtual Learning Environments: a Case Study," in *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare and Higher Education (E-LEARN'09)*, pp. 1088–1096, 2009.
- [301] **[AAMAS'09]** B. Li, **H. Yu**, Z. Shen & C. Miao, "Evolutionary Organizational Search," in *Proceedings of the 8th Joint International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'09)*, pp. 1329–1330, 2009.
- [302] **[ICALT'08]** **H. Yu**, Z. Shen, C.P. Low & C. Miao, "Transforming Learning through Agent Augmented Virtual World," in *Proceedings of the 8th IEEE International Conference on Advanced Learning Technologies (ICALT'08)*, pp. 933–937, 2008.
- [303] **[WI-IAT'07]** **H. Yu**, Z. Shen & C. Miao, "Intelligent Software Agent Design Tool Using Goal Net Methodology," in *Proceedings of the IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT'07)*, pp. 43–46, 2007.
- [304] **H. Yu**, Z. Shen & C. Miao, "A Service Based Multi-Agent System Design Tool for Modeling Integrated Manufacturing and Service Systems," in *Proceedings of the 12th IEEE Conference on Emerging Technologies and Factory Automation (ETFA'07)*, pp. 149–154, 2007.
- [305] **[JCDL'07]** Y. L. Theng, K. L. Tan, E. P. Lim, J. Zhang, D. H. L. Goh, K. Chatterjea, H. C. Chew, A. X. Sun, **H. Yu**, N. Dang, Y. Li & M. C. Vo, "Mobile G-Portal Supporting Collaborative Sharing and Learning in Geography Fieldwork: An Empirical Study," in *Proceedings of the 7th ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL'07)*, pp. 462–471, 2007.
- [306] **H. Yu**, L. Ding, X. Lu & B. Xie, "A Virtual Agent Based Mobile 3D Game with Mascot Capsule Micro3D API," in *Proceedings of the 3rd IEEE International Conference on Mobile Technology, Application and Systems (Mobility'06)*, pp. 36:1–36:6, 2006.
- [307] **H. Yu**, "Developing Mobile 3D Game Using MIDP 2.0 Game API and JSR-184 M3G API," in *Proceedings of the SIGRAD 2005 Conference*, pp. 69–73, 2005.

Keynote Talks

- [308] H. Yu, "Building Multi-Foundation Agent Systems through Trustworthy Auction-based Federated Learning", International Workshop on Federated Learning and Foundation Models for Multi-Media (FL@FM-ICME'24), Niagara Falls, ON, Canada, 2024.
- [309] H. Yu, "Towards Trustworthy Federated Learning", keynote talk at the 6th International Conference on Crowd Science and Engineering (ICCSE'23), Singapore, 2023.

Invited Talks

- [310] H. Yu, "Towards Trustworthy Federated Learning", The 1st Workshop on Decentralised Search and Recommendation (DeSeRe'24), the 2024 Web Conference (TheWebConf'24), Singapore, 2024.
- [311] H. Yu, "Building Ethics into AI", IEEE Education Week, 2024.
- [312] H. Yu, "Towards Personalized Federated Learning", TrustML Workshop, The University of British Columbia, Vancouver, BC, Canada, 2024.

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- [313] H. Yu, "Towards Auction-based Federated Learning", invited talk at the 2nd MBZUAI Workshop on Collaborative Learning: Empowering Sustainable Futures, Abu Dhabi, UAE, 2023.
- [314] H. Yu, "Towards Auction-based Federated Learning", invited talk at the Winter School on Trustworthy Federated Learning, Hangzhou, China, 2023.
- [315] H. Yu, "Towards Trustworthy Federated Learning", invited talk at the Workshop on Social Trust in AI in East Asian Countries and in the UK, Singapore, 2023.
- [316] H. Yu, "Towards Trustworthy Federated Learning", invited talk at the World Customs Organization (WCO) Technology Conference and Exhibition, Hanoi, Vietnam, 2023.
- [317] H. Yu, "Towards Trustworthy Federated Learning", invited talk at the Institute of Computing Technology, Chinese Academy of Sciences, Beijing, China, 2023.
- [318] H. Yu, "Towards Trustworthy Federated Learning", invited talk at Beihang University, Beijing, China, 2023.
- [319] H. Yu, "Towards Trustworthy Federated Learning", invited talk at University of Technology Sydney, Australia, 2023.
- [320] H. Yu, "Contribution and Fairness-Aware Federated Learning", invited talk at FLSys@MLSys, Miami, FL, USA, 2023.
- [321] H. Yu, "Towards Trustworthy Federated Learning", invited talk at Xidian University, Xi'an, China, 2023.
- [322] H. Yu, "Towards Trustworthy Federated Learning", invited talk at the 1st Summer School on Artificial Intelligence, Singapore, 2022.
- [323] H. Yu, "Contribution and Fairness-Aware Federated Learning", invited talk at IJCAI, Shenzhen, China, 2022.
- [324] H. Yu, "Towards Trustworthy Federated Learning", invited talk at the MBZUAI Workshop on Collaborative Learning: From Theory to Practice, Abu Dhabi, UAE, 2022.
- [325] H. Yu, "Towards Trustworthy Federated Learning", invited talk at the AIXImpact Conference, Singapore, 2022.
- [326] H. Yu, "Towards a Trustworthy Federated Learning Ecosystem", invited talk at the KDD'21 Trust Day, Singapore, 2021.
- [327] H. Yu, "Ethics of AI: Policy Guidance", invited talk at the Asian Productivity Organization (APO), Tokyo, Japan, 2021.
- [328] H. Yu, "Towards a Federated Learning Ecosystem", invited talk at the Industry-University Research Alliance for Knowledge Federation (AFK) Workshop, Beijing, China, 2021.
- [329] H. Yu, "Trustworthy Federated Learning", invited talk at Temasek Foundation, Singapore, 2020.
- [330] H. Yu, "Towards a Federated Learning Ecosystem", invited talk at Southern University of Science and Technology, Shenzhen, Guangdong, China, 2020.
- [331] H. Yu, "Towards a Federated Learning Ecosystem", invited talk at the Forum of Federated Learning, ENN Group, Beijing, China, 2020.
- [332] H. Yu & C. Miao, "Collaborative Research Effort to Combat COVID-19 with AI", invited talk at the EU ASEAN Webinar - High Performance Computing (HPC)-COVID-19, Jakarta, Indonesia, 2020.
- [333] H. Yu, "Introduction to AI and Federated Learning", invited talk at Xidian University, Xi'an, China, 2020.
- [334] H. Yu, "Federated Learning Incentive Research", invited talk at Northeastern University, Shenyang, China, 2020.
- [335] H. Yu, "AI Applications: Fighting COVID-19," EnVision e-Talk Series, 2020.
- [336] H. Yu, "Federated Learning Incentive Ecosystem Design," invited talk at CCF YOCSEF Forum on Federated Learning – the Last Mile of AI, Shenzhen, China, 2020.
- [337] H. Yu, "Towards Human-Agent Collectives," invited talk at Beihang University, Beijing, China, 2019.
- [338] H. Yu, "Towards Human-Agent Collectives," invited talk at WeBank, Shenzhen, China, 2019.
- [339] H. Yu, "Incentive Mechanism Design for Federated Learning," invited talk at the Google Workshop on Federated Learning and Analytics, Seattle, USA.
- [340] H. Yu, "Optimization and Incentive Design for Large-scale Operation of Federated Machine Learning," invited talk at the NTU-Inspur Workshop on AI/Cloud Computing/Smart City, Singapore.
- [341] H. Yu, "Game Theoretic Research in Federated Machine Learning," invited talk at the 14th CCF Technology Frontier on Federated Machine Learning, Shenzhen, China, 2019.
- [342] H. Yu, "Complex Decision Support in the Sharing Economy," invited talk at WeBank, Shenzhen, China, 2018.
- [343] H. Yu, "Opportunistic Work-Rest Scheduling - Ethically Aligned AI for Productive Aging," public lecture at the ASPIRE Student Workshop, Singapore, 2018.

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- [344] H. Yu, "Building Ethics into Artificial Intelligence," invited talk at the Workshop towards Human Level General AI, A*STAR, Singapore, 2018.
- [345] C. Miao & H. Yu, "AI-empowered Ageless Aging," invited talk at the NTU-UK Workshop on AI for Security and Beyond, Nanyang Technological University (NTU), Singapore, 2018.
- [346] H. Yu, "AI-empowered Ageless Aging," invited talk at the NTU-USYD Launch Workshop, Nanyang Technological University (NTU), Singapore, 2018.
- [347] H. Yu, "Stochastic Optimization for Human Resource Management," invited talk at the Joint NTU-Alibaba Workshop on Emerging Topics of AI, Nanyang Technological University (NTU), Singapore, 2018.
- [348] C. Miao, H. Yu & C. Leung, "Technology Empowered Ageless Aging," invited talk at the Digital Economy Seminar, United Nations Development Programme, Singapore, 2018.
- [349] H. Yu, "Towards City AI: Data-driven Algorithmic Management," invited talk at the Joint Alibaba-NTU Workshop on Emerging AI, Alibaba, Hangzhou, China 2018.
- [350] H. Yu, "Stochastic Optimization for Data-driven Algorithmic Management," invited talk at the NTU-Ant Financial Joint Workshop, Nanyang Technological University (NTU), Singapore, 2017.
- [351] H. Yu, "Algorithmic Management in Crowdsourcing," invited talk at the School of Computer Science and Technology, Shandong University, Jinan, China, 2017.
- [352] H. Yu, "Algorithmic Management and its Applications in e-Government Service Provision," invited talk at Dareway Software Co. Ltd, Jinan, China, 2017.
- [353] H. Yu, "Intelligently Managing the Collective Effort of Community Teaching Assistants in MOOCs through Smart Decision Support," invited talk at the 2nd PKU-NTU Workshop on AI+, Guangzhou, China, 2017.
- [354] H. Yu, "AI-Powered Nursing Care for Senior Citizens," invited talk at the inaugural Innovating Care Conference, Singapore, 2017.
- [355] H. Yu, "AI-Powered Crowd-computing (AIPC)," invited talk at the Joint Research Institute (JRI), Sino-Singapore Guangzhou Knowledge City (SSGKC), Guangzhou, China, 2017.
- [356] H. Yu, "AI-Powered Crowd-computing (AIPC)," invited talk at the School of Computer Science and Engineering (SCSE), Nanyang Technological University (NTU), Singapore, 2017.
- [357] H. Yu, "Crowd Computing for Productive Aging," invited talk at the IPS-CFE Conference on the Future Economy of Singapore, Lee Kuan Yew School of Public Policy, Singapore, 2016.
- [358] H. Yu, "Open Participatory Education in MOOCs," invited talk at the NTU-PKU Joint Research Institute Workshop on Learning @ Scale, Singapore, 2016.
- [359] H. Yu, "Open Participatory Education in MOOCs," invited talk at the University of Melbourne, Melbourne, Australia, 2016.
- [360] H. Yu, "An Introduction to Gerontechnology Research," invited talk at the College of Computer Science and Technology, Jilin University, Changchun, China 2015.
- [361] H. Yu, "An Introduction to Crowd Science Innovations," invited talk at the Joint Tsinghua-NTU Workshop on Crowd Science Innovations, Tsinghua University, Beijing, China, 2015.