

Curriculum Vitae

Han Yu, Nanyang Technological University, Singapore



Position: Nanyang Assistant Professor (NAP)

Address:

N4-02c-109, School of Computer Science and Engineering (SCSE)
Nanyang Technological University (NTU)
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Education

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

Research Interest

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

Employment History

- **2018 – :** Nanyang Assistant Professor (NAP), Nanyang Technological University (NTU), Singapore.
- **2019:** Consultant, WeBank, China.
- **2017 – 2018:** Visiting Scholar, Department of Computer Science & Engineering (CSE), Hong Kong University of Science and Technology (HKUST), Hong Kong.
- **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.

Awards & Honours

1. **2021:** "Noise-resistant Deep Metric Learning with Ranking-based Instance Selection," CVPR'21, PREMIA Best Student Paper Runner Up Award.
2. **2021:** "Latent-Optimized Adversarial Neural Transfer for Sarcasm Detection," NAACL-HLT, PREMIA Best Student Paper Runner Up Award.
3. **2021:** Certificate of Appreciation, the 30th International Joint Conference on Artificial Intelligence (IJCAI'21).
4. **2021:** "Enhancing E-commerce Recommender System Adaptability with Online Deep Controllable Learning-To-Rank," Innovative Applications of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
5. **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".
6. **2020:** "FedVision: An Online Visual Object Detection Platform powered by Federated Learning," Innovative Applications of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
7. **2020:** "Accelerating Ranking in E-Commerce Search Engines through Contextual Factor Selection," Innovative Applications of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
8. **2020:** "PIDS: An Intelligent Electric Power Management Platform," Innovative Applications of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
9. **2019:** Innovation Award, the 28th International Joint Conference on Artificial Intelligence (IJCAI'19).

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- 10.**2019**: Most Innovative Video Award, the 28th International Joint Conference on Artificial Intelligence (IJCAI'19).
- 11.**2019**: Certificate of Appreciation, the 28th International Joint Conference on Artificial Intelligence (IJCAI'19).
- 12.**2018**: Outstanding Reviewer Award, Journal of Retailing and Consumer Services (JRCS), Elsevier.
- 13.**2018**: Top 10 Papers, the 26th ACM Multimedia Conference (ACM MM'18).
- 14.**2018**: Most Societally Beneficial Video Award, the 27th International Joint Conference on Artificial Intelligence (IJCAI'18).
- 15.**2018**: "SmarthS: An AI Platform for Improving Government Service Provision", Innovative Applications of AI Award, Association for the Advancement of Artificial Intelligence (AAAI).
- 16.**2017**: Best Student Paper Award, International Journal of Information Technology (IJIT).
- 17.**2016**: Best Paper Award, the 1st International Conference on Crowd Science and Engineering (ICCSE'16).
- 18.**2016**: Best Poster Award, the 1st International Conference on Crowd Science and Engineering (ICCSE'16).
- 19.**2016**: Best Paper Award, the 8th International Conference on Social Computing and Social Media (SCSM'16).
- 20.**2016**: Best Student Poster Award, the 30th AAAI Conference on Artificial Intelligence (AAAI-16).
- 21.**2016**: Best Video – People's Choice Award, the 30th AAAI Conference on Artificial Intelligence (AAAI-16).
- 22.**2015**: Best Demo Award, the 2015 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT'15).
- 23.**2015**: Best Application Video Award, the 24th International Joint Conference on Artificial Intelligence (IJCAI'15).
- 24.**2015**: Singapore Challenge Finalist (Top 10), the Global Young Scientists Summit (GYSS@one-north).
- 25.**2015**: Research Commercialization via Joint Venture Companies Award, NTUitive, NTU, Singapore.
- 26.**2014**: Singapore Challenge Finalist (Top 10), the Global Young Scientists Summit (GYSS@one-north).
- 27.**2011**: Best Paper Award, 13th IEEE International Conference on Communication Technology (ICCT'11).

Teaching Experience

- **2021 – : Foundations of AI Ethics**
 - Course Designer
 - Lecturer
- **2021 – : Business Liability and Ethics in AI Usage**
 - Course Designer
 - Lecturer
- **2020 – : AI6101 – Introduction of AI and AI Ethics**
 - Course Designer, Lecturer, Tutor, Lab Supervisor
- **2020: Responsible Artificial Intelligence for Social Good**
 - Course Designer, Lecturer
- **2020: CZ3005 – Artificial Intelligence**
 - Lecturer, Tutor
- **2020 – : CZ2003 – Computer Graphics and Visualization**
 - Lab Supervisor
- **2019 – : CZ3003 – Software Systems Analysis and Design**
 - Lecturer, Tutor, Lab Supervisor, Course Coordinator
- **2019 – : AI in Healthcare in the Age of Industry 4.0**
 - Course Designer, Lecturer
- **2019: Advanced AI Algorithms**
 - Course Designer, Lecturer
- **2018: CZ4031 – Database System Principles**
 - Lecturer, Tutor, Lab Supervisor

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- **2015 – 2018: CZ2004 – Human-Computer Interaction**
 - Guest Lecturer, Tutor, Lab Supervisor, Technology Enhanced Learning (TEL)

Professional Services

- **Editorial Services for Journals:**
 - 1) Guest Editor, Special Issue on Big Data Intelligence in Healthcare Applications Based on Physiological Signals, Journal of Healthcare Engineering, 2019.
 - 2) Guest Editor, Special Issue on Federated Machine Learning, IEEE Intelligent Systems Journal, 2019.
 - 3) Associate Editor, the International Journal of Information Technology (IJIT).
- **Standardization**
 - 1) IEEE P3652.1 Federated Machine Learning Working Group.
- **Chair/Panel Services for Conferences:**
 - 1) Co-Organizer, International Workshop on Federated Learning for User Privacy and Data Confidentiality in Conjunction with ICML 2021 (FL-ICML'21), Virtual, 2021.
 - 2) Program Co-Chair, the 17th International Conference on Advanced Data Mining and Applications (ADMA'21), Sydney, Australia, 2021.
 - 3) Industry Day Co-Chair, the 30th International Joint Conference on Artificial Intelligence (IJCAI'21), Montreal, QB, Canada, 2021.
 - 4) Sponsorship Co-Chair, the 30th International Joint Conference on Artificial Intelligence (IJCAI'21), Montreal, QB, Canada, 2021.
 - 5) Member, SIGAI Industry Award Committee, the 30th International Joint Conference on Artificial Intelligence (IJCAI'21), Montreal, QB, Canada, 2021.
 - 6) Senior Program Committee (SPC) Member, the 30th International Joint Conference on Artificial Intelligence (IJCAI'21), Montreal, QB, Canada, 2021.
 - 7) 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.
 - 8) 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.
 - 9) Program Co-Chair, AAAI 2021 Workshop: Towards Robust, Secure and Efficient Machine Learning (RSEML'21), Online, 2021.
 - 10) Senior Program Committee (SPC) Member, the 35th AAAI Conference on Artificial Intelligence (AAAI-21), Vancouver, BC, Canada, 2021.
 - 11) Judge, the 2nd WeBank FinTechathon, Shenzhen, China, 2020.
 - 12) Proposal Reviewer, Swiss National Science Foundation, 2020.
 - 13) Industry Day Co-Chair, the 29th International Joint Conference on Artificial Intelligence (IJCAI'20), Yokohama, Japan, 2020.
 - 14) Sponsorship Co-Chair, the 29th International Joint Conference on Artificial Intelligence (IJCAI'20), Yokohama, Japan, 2020.
 - 15) Senior Program Committee (SPC) Member (Federated Learning), the 29th International Joint Conference on Artificial Intelligence (IJCAI'20), Yokohama, Japan, 2020.
 - 16) Organizing Committee Member, IBM Workshop on Federated Learning and Analytics (FL-IBM'20), New York, NY, USA, 2020.
 - 17) Session Chair, the 34th AAAI Conference on Artificial Intelligence (AAAI-20), New York, NY, USA, 2020.
 - 18) Senior Program Committee Member, the 34th AAAI Conference on Artificial Intelligence (AAAI-20), New York, NY, USA, 2020.
 - 19) Co-Chair, the 2nd International Workshop on Federated Learning for Data Privacy and Confidentiality (FL-NeurIPS'19), Vancouver, BC, Canada, 2019.

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- 20) Co-Chair, Special Track on Federated Machine Learning, the 2019 IEEE International Conference on Big Data (IEEE BigData'19), Los Angeles, CA, USA, 2019.
 - 21) Program Co-Chair, the 4th International Conference on Crowd Science and Engineering (ICCSE'19), Jinan, China, 2019.
 - 22) Judge, the 1st WeBank FinTechathon, Shenzhen, China, 2019.
 - 23) Publicity Co-Chair, the 28th International Joint Conference on Artificial Intelligence (IJCAI'19), Macau, 2019.
 - 24) Session Chair, the 28th International Joint Conference on Artificial Intelligence (IJCAI'19), Macau, 2019.
 - 25) Publicity Co-Chair, the 1st International Workshop on Federated Machine Learning for User Privacy and Data Confidentiality (FL-IJCAI'19), Macau, 2019.
 - 26) Co-Chair, Workshop on Artificial Intelligence Safety (AISafety), IJCAI, Macau, 2019.
 - 27) Student Mentor, the 2nd AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES-19), Honolulu, HI, USA, 2019.
 - 28) Proposal Reviewer, the Israeli Ministry of Science and Technology, 2018.
 - 29) Panel Member, Workshop on Translating AI Technology into Healthcare Solutions, AI Singapore, Singapore, 2019.
 - 30) Program Co-Chair, the 3rd IEEE International Conference on Agents (ICA'18), Singapore, 2018.
 - 31) Local Organization Co-Chair, the 3rd International Conference on Crowd Science and Engineering (ICCSE'18), Singapore, 2018.
 - 32) 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.
 - 33) Session Chair, the 32nd AAAI Conference on Artificial Intelligence (AAAI-18), New Orleans, LA, USA, 2018.
 - 34) Session Chair, the 2nd IEEE International Conference on Agents (ICA'17), Beijing, China, 2017.
 - 35) Session Chair, the 5th International Conference on Ageless Aging (ICAA'17), Beijing, China, 2017.
 - 36) Session Chair, the 2nd International Conference on Crowd Science and Engineering (ICCSE'17), Beijing, China, 2017.
 - 37) Tutorial / Workshop / Demo / Special Track / Poster Chairs, the 2nd International Conference on Crowd Science and Engineering (ICCSE'17), Beijing, China, 2017.
 - 38) Session Chair, the 1st International Conference on Crowd Science and Engineering (ICCSE'16), Vancouver, BC, Canada, 2016.
 - 39) Panel Member, Industries of the Future, the IPS-CFE Conference on the Future Economy of Singapore, Singapore, 2016.
 - 40) Co-Chair & Panel Member, Symposium on Interactive Games for Active Ageing, the 9th World Congress on Active Ageing (WCAA'16), Melbourne, VIC, Australia, 2016.
 - 41) 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.

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- 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 Big Data (TBD), IEEE.
- 30) IEEE Transactions on Cloud Computing (TCC), IEEE.
- 31) IEEE Transactions on Knowledge and Data Engineering (TKDE), IEEE.
- 32) IEEE Transactions on Mobile Computing (TMC), IEEE.
- 33) IEEE Transactions on Parallel and Distributed Systems (TPDS), IEEE.
- 34) IEEE Transactions on Sustainable Computing (T-SUSC), IEEE.
- 35) IEEE Transactions on Vehicular Technology (TVT), IEEE.
- 36) IEEE/ACM Transactions on Networking (ToN), IEEE/ACM.
- 37) International Journal of Crowd Science (IJCS), Emerald.
- 38) International Journal of Hospitality Management (IJHM), Elsevier.
- 39) International Journal of Information Technology (IJIT), Singapore Computer Society (SCS).
- 40) International Journal of Machine Learning and Cybernetics (JMLC), Springer.
- 41) International Journal of Software Engineering and Knowledge Engineering (IJSEKE), World Scientific.
- 42) Journal of Artificial Intelligence Research (JAIR), AAAI Press.
- 43) Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS), Springer.
- 44) Journal of Business Research (JBR), Elsevier.
- 45) Journal of Retailing and Consumer Services (JRCS), Elsevier. (Outstanding Reviewer Award, 2018)
- 46) Journal of Systems Science and Systems Engineering (JSSSE), Springer.
- 47) Journal of Technology in Society (TIS), Elsevier.
- 48) Journal of Urban Management (JUM), Elsevier.
- 49) Knowledge-Based Systems (KBS), Elsevier.
- 50) Multiagent and Grid Systems (MGS), IOS Press.
- 51) Patterns, Cell Press.
- 52) PLoS ONE.
- 53) Progress in Artificial Intelligence (PRAI), SpringerNature.
- 54) Sensors, MDPI.
- 55) Social Sciences, MDPI.

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- 56) Sustainability, MDPI.
- 57) Technology in Society, Elsevier.
- 58) Web Intelligence and Agent Systems (WIAS), IOS Press.
- 59) 《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 29th International Joint Conference on Artificial Intelligence (IJCAI'20), Yokohama, Japan, 2020.
- 2) The 40th IEEE International Conference on Distributed Computing Systems (ICDCS'20), Singapore, 2020.
- 3) The 34th AAAI Conference on Artificial Intelligence (AAAI-20), New York, NY, USA, 2020.
- 4) The 23rd International Symposium on Wearable Computers (ISWC'19), London, UK, 2019.
- 5) The 28th International Joint Conference on Artificial Intelligence (IJCAI'19), Macau, 2019.
- 6) The 16th IEEE International Conference on Ubiquitous Intelligence and Computing (UIC'19), Leicester, UK, 2019.
- 7) The 33rd AAAI Conference on Artificial Intelligence (AAAI-19), Honolulu, HI, USA, 2019.
- 8) The 2nd International Conference on Computer Science and Application Engineering (CSAE'18), Hohhot, China, 2018.
- 9) The 2018 IEEE/WIC/ACM International Conference on Web Intelligence (WI'18), Santiago, Chile, 2018.
- 10) The 15th Pacific Rim International Conference on Artificial Intelligence (PRICAI'18), Nanjing, China, 2018.
- 11) The 27th International Joint Conference on Artificial Intelligence and the 23rd European Conference on Artificial Intelligence (IJCAI-ECAI-18), Stockholm, Sweden, 2018.
- 12) The 20th International Conference on Human-Computer Interaction (HCI'18), Las Vegas, NV, USA, 2018.
- 13) The 17th International Conference on Autonomous Agents and Multi-agent Systems (AAMAS'18), Stockholm, Sweden, 2018.
- 14) The 32nd AAAI Conference on Artificial Intelligence (AAAI-18), New Orleans, LA, USA, 2018.
- 15) The 2nd IEEE International Conference on Agents (ICA'17), Beijing, China, 2017.
- 16) The 5th International Conference on Ageless Aging (ICAA'17), Beijing, China, 2017.
- 17) The 2nd International Conference on Crowd Science and Engineering (ICCSE'17), Beijing, China, 2017.
- 18) The 2017 IEEE/WIC/ACM International Conference on Web Intelligence (WI'17), Leipzig, Germany, 2017.
- 19) The 26th International Joint Conference on Artificial Intelligence (IJCAI'17), Melbourne, VIC, Australia, 2017.
- 20) The AAMAS Workshop on Crowdsourcing and Multiagent Systems (CMAS), Sao Paulo, Brazil, 2017.
- 21) The 31st AAAI Conference on Artificial Intelligence (AAAI-17), San Francisco, CA, USA, 2017.
- 22) The 1st International Conference on Crowd Science and Engineering (ICCSE'16), Vancouver, BC, Canada, 2016.
- 23) The 1st International Conference on Agents (ICA'16), Kunibiki Messe, Matsue, Japan, 2016.
- 24) The 2016 IEEE/WIC/ACM International Conference on Web Intelligence (WI'16), Omaha, NE, USA, 2016.
- 25) The 25th International Joint Conference on Artificial Intelligence (IJCAI'16), New York, NY, USA, 2016.
- 26) The 30th AAAI Conference on Artificial Intelligence (AAAI-16), Phoenix, AZ, USA, 2016.
- 27) The 2015 IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT'15), Singapore, 2015.
- 28) The 33rd Annual ACM SIGCHI Conference on Human Factors in Computing Systems (CHI'15), Seoul, South Korea, 2015.
- 29) The 14th International Conference on Autonomous Agents and Multi-agent Systems (AAMAS'15), Istanbul, Turkey, 2015.
- 30) The 2013 International Conference on Ageless Aging (ICAA'13), Vancouver, BC, Canada, 2013.

- **Professional Organization Memberships:**

- 1) Regular Member, the Association for the Advancement of Artificial Intelligence (AAAI).
- 2) Member, Association for Computing Machinery (ACM).

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- 3) Senior Member, China Computer Federation (CCF).
- 4) Member, the Institute of Electrical and Electronics Engineers (IEEE).
- 5) Member, the International Foundation for Autonomous Agents and Multi-Agent Systems (IFAAMAS).
- 6) Professional Member, Singapore Computer Society (SCS).

Patents

- [1] **H. Yu, C. Miao, Z. Shen and C. Leung**, "Method and Apparatus for Algorithmic Control of the Acceptance of Orders by an E-Commerce Enterprise," Patent No. **ZL 201580013523.2**, 02/03/2021.

Research Grants

- [1] **2021–2025**: Co-Principal Investigator, "TrustFUL: Trustworthy Federated Ubiquitous Learning", AI Singapore Research Programme Grant (No. AISG2-RP-2020-019), S\$6,883,200.
- [2] **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\$400,000.
- [3] **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\$400,000.
- [4] **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.
- [5] **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.
- [6] **2019–2020**: Co-Principal Investigator, "User Experience Study for Online Banking Products", The NTU-WeBank Joint Research Centre on FinTech Grant, S\$100,000.
- [7] **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.
- [8] **2018–2022**: Principal Investigator, "AI-Powered Crowd-computing (AIPC)", Nanyang Assistant Professorship (NAP) Grant, Nanyang Technological University (NTU), Singapore, S\$1,000,000.
- [9] **2017–2020**: Investigator, "ADL+: A Digital Toolkit for Cognitive Assessment and Intervention", Ministry of Health (MOH), Singapore, S\$2,114,000.
- [10] **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.
- [11] **2017–2019**: Investigator, "AI+ Healthcare", Sino-Singapore Guangzhou Knowledge City, Guangzhou, Guangdong, China, RMB1,200,000.
- [12] **2015–2018**: Principal Investigator, "Intelligent Personalized Crowdsourcing for Productive Aging", Lee Kuan Yew Endowment Fund, Singapore, S\$180,000.
- [13] **2015–2016**: Investigator, "Unobtrusive Sensing for Aging-in-Place", National Research Foundation (NRF), Prime Minister's Office, Singapore, S\$228,000.

Research Publications

Books

- [1] Yang, Q., Fan, L. & **Yu, H.** (Eds.). (2020). *Federated Learning: Privacy and Incentive*. Springer International Publishing, p. 282.
- [2] 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.
- [3] Yang, Q., Liu, Y., Cheng, Y., Kang, Y., Chen, T. & **Yu, H.** (2019). *Federated Learning*. Morgan & Claypool Publishers, San Rafael, CA, USA, p. 207.

Book Chapters

- [4] 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*. Springer International Publishing, Switzerland.
- [5] 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 International Publishing, Switzerland.

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- [6] 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 International Publishing, Switzerland.
- [7] 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 International Publishing, Switzerland.
- [8] 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 International Publishing, Switzerland.
- [9] 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 International Publishing, Switzerland.
- [10] **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.
- [11] **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.
- [12] 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

- [13] **[FnTML]** Kairouz, P., McMahan, H. B., Avent, B., Bellet, A., Bennis, M., Bhagoji, A. N., Bonawitz, K., Charles, Z., Cormode, G., Cummings, R., D'Oliveira, R. G. L., Rouayheb, S. E., Evans, D., Gardner, J., Garrett, Z., Gascón, A., Ghazi, B., Gibbons, P. B., Gruteser, M., Harchaoui, Z., He, C., He, L., Huo, Z., Hutchinson, B., Hsu, J., Jaggi, M., Javidi, T., Joshi, G., Khodak, M., Konečný, J., Korolova, A., Koushanfar, F., Koyejo, S., Lepoint, T., Liu, Y., Mittal, P., Mohri, M., Nock, R., Özgür, A., Pagh, R., Raykova, M., Qi, H., Ramage, D., Raskar, R., Song, D., Song, W., Stich, S. U., Sun, Z., Suresh, A. T., Tramèr, F., Vepakomma, P., Wang, J., Xiong, L., Xu, Z., Yang, Q., Yu, F. X., **Yu, H.** & Zhao, S. Advances and open problems in federated learning. *Foundations and Trends in Machine Learning*, Now Publishers (2021). **[IF: 10.830]**
- [14] **[IEEE TKDE]** Yang, H., Wang, T., Tang, X., **Yu, H.**, Liu, F. & Song, H. Dynamically optimizing display advertising profits under diverse budget settings. *IEEE Transactions on Knowledge and Data Engineering*, IEEE (2021). **[IF: 4.935]**
- [15] **[AI Mag.]** Zheng, Y., **Yu, H.**, Shi, Y., Zhang, K., Zhen, S., Cui, L., Leung & Miao, C. Optimizing smart grid operations from the demand side. *AI Magazine* **42**(2), AAAI Press (2021). **[IF: 2.191]**
- [16] **[AI Mag.]** Liu, Y., Huang, A., Luo, Y., Huang, H., Liu, Y., Chen, Y., Feng, L., Chen, T., **Yu, H.** & Yang, Q. Federated learning-powered visual object detection for safety monitoring. *AI Magazine* **42**(2), AAAI Press (2021). **[IF: 2.191]**
- [17] **[AI Mag.]** Zeng, A., **Yu, H.**, Da, Q., Zhan, Y., Yu, Y., Zhou, J. & Miao, C. Improving search engine efficiency through contextual factor selection. *AI Magazine* **42**(2), AAAI Press (2021). **[IF: 2.191]**
- [18] **[Diagnostics]** Lei, M., Li, J., Li, M., Zou, L. & **Yu, H.** An improved UNet++ model for congestive heart failure diagnosis using short-term RR intervals. *Diagnostics*, MDPI (2021). **[IF: 3.110]**
- [19] **[Fuel]** Lei, M., Rao, Z., Wang, H., Chen, Y., Zou, L. & **Yu, H.** Maceral groups analysis of coal based on semantic segmentation of photomicrographs via the improved U-net. *Fuel*, Elsevier (2021). **[IF: 5.578]**
- [20] **[JRCS]** Zhou, Q., Lim, F. J., **Yu, H.**, Xu, G., Ren, X., Liu, D., Wang, X., Mai, X. & Xu, H. A study on factors affecting service quality and loyalty intention in mobile banking. *Journal of Retailing and Consumer Services* **60**, doi:10.1016/j.jretconser.2020.102424, Elsevier (2021). **[IF: 4.219]**
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- [116] W. Wang, **H. Yu** & C. Miao, "Deep Model for Dropout Prediction in MOOCs," in *Proceedings of the 2nd International Conference on Crowd Science and Engineering (ICCSE'17)*, pp. 26–32, 2017.
- [117] L. Cui, X. Zhao, L. Liu, **H. Yu** & C. Miao, "Learning Complex Crowdsourcing Task Allocation Strategies from Humans," in *Proceedings of the 2nd International Conference on Crowd Science and Engineering (ICCSE'17)*, pp. 33–37, 2017.
- [118] X. Min, Y. Shi, L. Cui, **H. Yu** & Y. Miao, "Efficient Crowd-Powered Active Learning for Reliable Review Evaluation," in *Proceedings of the 2nd International Conference on Crowd Science and Engineering (ICCSE'17)*, pp. 136–143, 2017. (Best Poster Award)

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Han Yu, Nanyang Technological University, Singapore

- [119] [AAAI-17] H. Zhang, C. Miao, **H. Yu** & C. Leung, "A Computational Assessment Model for the Adaptive Level of Rehabilitation Exergames for the Elderly," in *Proceedings of the 31st AAAI Conference on Artificial Intelligence (AAAI-17)*, pp. 5021–5022, 2017.
- [120] [IAAI-17] Z. Pan, **H. Yu**, C. Miao & C. Leung, "Crowdsensing Air Quality with Image Analytics and Deep Learning," in *Proceedings of the 29th AAAI Conference on Innovative Applications of Artificial Intelligence (IAAI-17)*, pp. 4728–4733, 2017.
- [121] **H. Yu**, Z. Pan, C. Miao & C. Leung, "Crowd Computing for Population Aging Challenges," in *Proceedings of the 1st International Conference on Crowd Science and Engineering (ICCSE'16)*, 2016.
- [122] J. Lin, **H. Yu**, Z. Pan, Z. Shen & L. Cui, "Towards Data-driven Software Engineering Skills Assessment," in *Proceedings of the 1st International Conference on Crowd Science and Engineering (ICCSE'16)*, 2016. ([Best Paper Award](#))
- [123] H. Lin, **H. Yu**, C. Miao & L. Qiu, "Towards Emotionally Intelligent Machines: Taking Social Context into Account," in *Proceedings of 8th International Conference on Social Computing and Social Media (SCSM'16)*, pp. 12–24, 2016. ([Best Paper Award](#))
- [124] **H. Yu**, "Algorithmic Crowdsourcing for Productive Aging," in *Proceedings of the 9th World Congress on Active Ageing (WCAA'16)*, pp. 11–12, 2016.
- [125] C. Miao, C. Leung, Y. Chen & **H. Yu**, "Interactive Games for Active Ageing," in *Proceedings of the 9th World Congress on Active Ageing (WCAA'16)*, pp. 11, 2016.
- [126] [AAMAS'16] S. Liu, Z. Shen, **H. Yu**, H. Lin, Z. Guo, Z. Pan, C. Miao & C. Leung, "A Kinect-based Interactive Game for Improving the Cognitive Inhibition of the Elderly," in *Proceedings of the 15th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'16)*, pp. 1479–1481, 2016.
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- [128] [IAAI-16] **H. Yu**, C. Miao, Z. Shen, J. Lin & C. Leung, "Infusing Human Factors into Algorithmic Crowdsourcing," in *Proceedings of the 28th AAAI Conference on Innovative Applications of Artificial Intelligence (IAAI-16)*, pp. 4062–4063, 2016.
- [129] [AAAI-16] Z. Pan, **H. Yu**, C. Miao & C. Leung, "Efficient Collaborative Crowdsourcing," in *Proceedings of the 30th AAAI Conference on Artificial Intelligence (AAAI-16)*, pp. 4248–4249, 2016. ([Best Student Poster Award](#))
- [130] [AAAI-16] **H. Yu**, S. Liu, Z. Pan, N. S. B. Khalid, Z. Shen, C. Miao & C. Leung, "Productive Aging through Intelligent Personalized Crowdsourcing," in *Proceedings of the 30th AAAI Conference on Artificial Intelligence (AAAI-16)*, pp. 4405–4406, 2016.
- [131] [AAAI-16] Z. Shen, **H. Yu**, S. Li & C. Miao, "Multi-Agent System Development MADE Easy," in *Proceedings of the 30th AAAI Conference on Artificial Intelligence (AAAI-16)*, pp. 4391–4392, 2016.
- [132] [AAAI-16] Y. Shi, C. Sun, Q. Li, L. Cui, **H. Yu** & C. Miao, "A Fraud Resilient Medical Insurance Claim System," in *Proceedings of the 30th AAAI Conference on Artificial Intelligence (AAAI-16)*, pp. 4393–4394, 2016.
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- [134] [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.
- [135] [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](#))
- [136] [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.

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- [137] [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.
- [138] [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.
- [139] 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](#))
- [140] 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.
- [141] 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.
- [142] [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.
- [143] [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.
- [144] [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.
- [145] [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](#))
- [146] [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.
- [147] 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.
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- [149] [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.
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- [151] 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.
- [152] [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.
- [153] [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.
- [154] [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.

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Han Yu, Nanyang Technological University, Singapore

- [155] **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.
- [156] **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.
- [157] **[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.
- [158] **[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.
- [159] **[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.
- [160] **[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.
- [161] **[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.
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- [163] **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.
- [164] 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.
- [165] **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**)
- [166] **[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.
- [167] 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.
- [168] 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.
- [169] **[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.
- [170] **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**)
- [171] 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.
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- [173] [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.
- [174] [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.
- [175] [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.
- [176] **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.
- [177] [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.
- [178] **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 IEE International Conference on Mobile Technology, Application and Systems (Mobility'06)*, pp. 36:1–36:6, 2006.
- [179] **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.

Invited Talks

- [180] H. Yu, "Ethics of AI: Policy Guidance", invited talk at the Asian Productivity Organization (APO), Tokyo, Japan, 2021.
- [181] H. Yu, "Towards a Federated Learning Ecosystem", invited talk at the Industry-University Research Alliance for Knowledge Federation (AFK) Workshop, Beijing, China, 2021.
- [182] H. Yu, "Trustworthy Federated Learning", invited talk at Temasek Foundation, Singapore, 2020.
- [183] H. Yu, "Towards a Federated Learning Ecosystem", invited talk at Southern University of Science and Technology, Shenzhen, Guangdong, China, 2020.
- [184] H. Yu, "Towards a Federated Learning Ecosystem", invited talk at the Forum of Federated Learning, ENN Group, Beijing, China, 2020.
- [185] 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.
- [186] H. Yu, "Introduction to AI and Federated Learning", invited talk at Xidian University, Xi'an, China, 2020.
- [187] H. Yu, "Federated Learning Incentive Research", invited talk at Northeastern University, Shenyang, China, 2020.
- [188] H. Yu, "AI Applications: Fighting COVID-19," EnVision e-Talk Series, 2020.
- [189] H. Yu, "Federated Learning Incentive Ecosystem Design," invited talk at CCF YOCSEF Forum on Federated Learning – the Last Mile of AI, Shezhen, China, 2020.
- [190] H. Yu, "Towards Human-Agent Collectives," invited talk at Beihang University, Beijing, China, 2019.
- [191] H. Yu, "Towards Human-Agent Collectives," invited talk at WeBank, Shenzhen, China, 2019.
- [192] H. Yu, "Incentive Mechanism Design for Federated Learning," invited talk at the Google Workshop on Federated Learning and Analytics, Seattle, USA.
- [193] 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.
- [194] H. Yu, "Game Theoretic Research in Federated Machine Learning," invited talk at the 14th CCF Technology Frontier on Federated Machine Learning, Shenzhen, China, 2019.
- [195] H. Yu, "Complex Decision Support in the Sharing Economy," invited talk at WeBank, Shenzhen, China, 2018.
- [196] H. Yu, "Opportunistic Work-Rest Scheduling - Ethically Aligned AI for Productive Aging," public lecture at the ASPIRE Student Workshop, Singapore, 2018.
- [197] H. Yu, "Building Ethics into Artificial Intelligence," invited talk at the Workshop towards Human Level General AI, A*STAR, Singapore, 2018.

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- [198] 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.
- [199] H. Yu, "AI-empowered Ageless Aging," invited talk at the NTU-USYD Launch Workshop, Nanyang Technological University (NTU), Singapore, 2018.
- [200] 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.
- [201] C. Miao, H. Yu & C. Leung, "Technology Empowered Ageless Aging," invited talk at the Digital Economy Seminar, United Nations Development Programme, Singapore, 2018.
- [202] H. Yu, "Towards City AI: Data-driven Algorithmic Management," invited talk at the Joint Alibaba-NTU Workshop on Emerging AI, Alibaba, Hangzhou, China 2018.
- [203] H. Yu, "Stochastic Optimization for Data-driven Algorithmic Management," invited talk at the NTU-Ant Financial Joint Workshop, Nanyang Technological University (NTU), Singapore, 2017.
- [204] H. Yu, "Algorithmic Management in Crowdsourcing," invited talk at the School of Computer Science and Technology, Shandong University, Jinan, China, 2017.
- [205] H. Yu, "Algorithmic Management and its Applications in e-Government Service Provision," invited talk at Dareway Software Co. Ltd, Jinan, China, 2017.
- [206] 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.
- [207] H. Yu, "AI-Powered Nursing Care for Senior Citizens," invited talk at the inaugural Innovating Care Conference, Singapore, 2017.
- [208] H. Yu, "AI-Powered Crowd-computing (AIPC)," invited talk at the Joint Research Institute (JRI), Sino-Singapore Guangzhou Knowledge City (SSGKC), Guangzhou, China, 2017.
- [209] H. Yu, "AI-Powered Crowd-computing (AIPC)," invited talk at the School of Computer Science and Engineering (SCSE), Nanyang Technological University (NTU), Singapore, 2017.
- [210] 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.
- [211] H. Yu, "Open Participatory Education in MOOCs," invited talk at the NTU-PKU Joint Research Institute Workshop on Learning @ Scale, Singapore, 2016.
- [212] H. Yu, "Open Participatory Education in MOOCs," invited talk at the University of Melbourne, Melbourne, Australia, 2016.
- [213] H. Yu, "An Introduction to Gerontechnology Research," invited talk at the College of Computer Science and Technology, Jilin University, Changchun, China 2015.
- [214] 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.