PANG Yan, James

Department of Analytics and Operations
NUS Business School
National University of Singapore
15 Kent Ridge Drive, S119245

Email: jamespang@nus.edu.sg
Phone: (65) 6601 3101
Home page: http://bizfaculty.nus.edu
/faculty-profiles/514-james

ACADEMIC APPOINTMENTS

National University of Singapore (NUS)   **04/2014-Present**

ADMINISTRATIVE

Assistant Dean (Industry Relations) at NUS Business School   **04/2022-Present**

Dean's Fellow at NUS Business School   **04/2022-Present**

- Led collaboration with 150+ industry partners
- Built a strategic partnership framework for industry partner engagement
- Provided advice to faculties for industry collaboration

Co-Director, NUS Business Analytics Centre (BAC)   **01/2017-Present**

- Established and led the applied research division in BAC and secured more than S$ 2 million R&D funding from industry
- Built and led the BAC industry community with 100+ partners, including Accenture, AXA, Alibaba, DBS, EY, Grab, Huawei, IBM, Johnson & Johnson, Morgan Stanley, SAP, Shopee, TikTok, etc.
- Created industry advisory board for BAC and MSBA program comprising of prominent industry leaders from various sectors
- Built BAC oversea collaboration with leading academic institutes and industry partners
- Accountable for the BAC daily operations management and strategy planning

ACADEMIC

Associate Professor at NUS Business School   **01/2017-Present**

Co-Director, NUS Master of Science in Business Analytics (MSBA)**01/2017-Present**

- Secured more than S$ 1 million industry funding for NUS MSBA scholarships
- Responsible for the development and execution of the NUS MSBA program strategy and operations

Visiting Associate Professor at NUS School of Computing   **04/2015-04/2017**

- Led the BAC industry collaboration in Healthcare and IT industry
- Built a new Healthcare Analytics specialization in the NUS MSBA program
- Mentored students' start-ups at NUS incubator and student international competitions

INDUSTRY PROFESSIONAL APPOINTMENTS

IBM Corporation   **04/2009-04/2017**

Chief Architect (Client Technical Advisor) of IBM AP Public Sector 03/2013-04/2017

- Led the IBM Business Analytics Reference Architecture (BARA) design, and provided technical leadership to important mega deals engagement in ASEAN public sector, e.g., Singapore National Electronic Health Record (NEHR), Singapore Customs New TradeNet and TradeXchange, MSF SSNet, etc.
- Led the technical solution design of the first worldwide Watson Cognitive Computing platform for citizen service.
- Acted as a core member of an IBM GMU (Growth Market Unit, including 150+ countries) Distinguish Engineer (DE) Challenge project – DHL Logistics Cloud. Design the global logistics operation and optimization solution for DHL.
- Led IBM GMU technical Community in ASEAN and solution architecture strategy in the public sector.

Lead Architect and Senior Manager in IBM R&D Labs   05/2011-03/2013

- Led the analytics and optimization development and service activities in IBM China Labs and manage 150+ developers, engineers, and architects.
- Led the solution design of NingBo Logistics Cloud (USD 33M) project, which was the first IBM Industry Cloud landing in Greater China Group (GCG).
- Set up and Led IBM worldwide Optimization Cloud strategy and development.
- Led the analytics & optimization service team to provide optimization consultancy and solutions in supply chain/logistics, manufacturing, retail, and financial service industry. The projects include RICHTEK supply chain planning, Shanghai Electric Group Company (SEC) production planning solution, Hongkong International Terminals (HIT) intelligent yard planning, China Foreign Exchange Trade System (CFETS) transaction optimization solution, ATM Restocking Cash Management optimization solution, etc.

Advisory Architect in IBM Software Labs   04/2009-04/2011

- Led the ILOG optimization service and solution team at Shanghai Lab (China).
- Led the IBM first optimization-based SCM solution win (MPO – Manufacturing Productivity Optimization at FAW Car) in GCG, including engagement, solution design, and end-to-end project delivery. (Achieved USD 20+ million annual production cost saving in one of the biggest automotive companies in China; This project was highlighted in IBM IMPACT 2010 conference.)
- Led the solution design of a number of anchor customer projects, including Bank of QingDao (BQD) SOA project, NOL Empty Container Reposition project, Chery CPM project, AnHui tobacco production planning, TAL production planning, DACHSER transportation management system, etc.
- Set up and chaired IBM GCG BAO (Business Analytics and Optimization) community, and lead the BAO team to design and develop cross-brand solution assets based on IBM ILOG Optimization, Cognos, and SPSS software framework.

Motorola Electronics Pte Ltd, Singapore   **04/2007-03/2009**

Research Scientist in Motorola Labs to provide technology solutions and consultancy to Motorola Integrated Supply Chain (ISC) organization. Projects include:

- Led a global team to develop an optimization-based Surface Mount Technology (SMT) lines scheduling system for Motorola Asia manufacturing sites (improved capacity utilization by 15%, scheduling lead time reduced from a few hours to a few minutes).
- Developed an inventory model to optimize the MOI (Motorola Owned Inventory) and VMI (Vendor Managed Inventory) in warehouses (reduced inventory by about 20%).
- Developed a vehicle routing optimization solution in Motorola Singapore inbound supply chain operations (achieve lead time improvement 133%, cost savings 28%).

Micron Technology Inc (Tech Semiconductor), Singapore   10/2006-03/2007

   Senior Engineer in Manufacturing Science section to design planning and scheduling solutions for the most complex and advanced manufacturing system, i.e., 300 mm DRAM wafer fabrication
- Designed analytical models and simulation models based on queuing theory for analyzing the 300mm wafer fabrication process to reduce the cycle time and cost (reduced DRAM wafer fabrication cycle time from about 110 days to 72 days).
- Designed scheduling algorithms for the 300mm wafer dispatching system.

EDUCATION

National University of Singapore (NUS), Singapore   06/2002-09/2006

Joint with Massachusetts Institute of Technology (*MIT*), under Singapore-MIT Alliance (SMA) program
   Ph.D., Manufacturing System and Technology, September 2006

Zhejiang University, Hangzhou, China   07/1995-03/2002

   M.Eng, Manufacturing System, March 2002
   B.Eng, Mechanical Engineering, June 1999

BOARD MEMBERS AND PUBLIC SERVICE APPOINTMENTS

- Singapore Tourism Board (STB) Data Advisory Panel,   02/2020 - Present
- Council Member, China Cloud System Pioneer Strategic Alliance (中国云体系产业创新战略联盟),   11/2018 – Present
- Member of NUS Furnace Incubator Advisory Committee,   01/2016 – Present
- Advisor, Neptune Logistics,   03/2021–02/2022
- Chief Technical Advisor, JINVOVO Technology Pte Ltd,   09/2019 -08/2020
- Advisor, IBD Technology Pte Ltd,   09/2018- 08/2019
- Advisor, Smart City Research Institute (China, GuangXi),   11/2018–10/2019
- Council Member, Singapore Blockchain Technology Foundation,   05/2018 – 04/2019
- Co-opted Member, Singapore Computer Society, Business Analytics Chapter,   01/2018– 01/2019
- Advisor, eBeeCare Pte Ltd,   12/2015– 11/2017
- Member, Luxembourg Institute of Science and Technology (LIST) Strategy Planning Committee,   06/2017– 12/2017
- Member, IBM AP Invention Disclosure Review Board,   01/2015– 04/2017
- Member, IBM Business Analytics and Optimization Architecture Board,   05/2012– 12/2013

- Member, IBM Software Defined Environment Architecture Board, 03/2013 – 03/2014
- Chairman, IBM Business Analytics and Optimization Association, 01/2010 – 12/2012
- Member, IBM Shared University Research program review board, 01/2012 – 12/2012
- Member, IBM-China Ministry of Education collaboration board, 01/2011 – 12/2011
- Member, IBM China Development Labs architecture board, 01/2010– 12/2013

HONORS AND AWARDS (Selected)

- Leading Academic Data Leaders 2021 by Chief Data Officer (CDO) Magazine 01/2021
- IBM Invention Plateau Award   11/2015
- IBM Invention Leadership Award   10/2015
- Master Certified Architect in the Open Group (Open CA)   06/2014
- IBM Expert Certified Architect   04/2014
- IBM Patent Award   06/2013
- IBM Outstanding Technical Achievement Award (OTAA)   11/2011
- IBM Outstanding Employee Equity Award   11/2012
- Best Paper Award at 2010 IBM GCG RTE Technical Conference   10/2010
- IBM Customer Service Star   10/2010
- IBM Eminence and Excellence Award   05/2010
- Motorola Performance Management (PM) Excellent Award   01/2009
- Nominee for the Andrew Fraser Prize 2007 (best postgraduate paper), Institute of Mechanical Engineers (IMechE)   04/2007
- Singapore Government Scholarship   2002-2006
- Outstanding Master of Zhejiang Province (top 1%)   03/2002
- Outstanding Bachelor of Zhejiang University (top 5%)   06/1999
- Distinguished Student Scholarship in Zhejiang University   1995-2002

RESEARCH INTERESTS

Blockchain, Privacy-preserving Computation, Business Analytics,

Modeling and Optimization in Supply Chain, Manufacturing System and Service

Operations

PATENTS AND INVENTION DISCLOSURES

1. Y. Pang, Xhoni Shollaj, "A Device And Method For Generating Marketing Content For A Subject", Filed in May 2023
2. Y. Pang, "Method and Apparatus for Privacy-Preserving Data Sharing", 2021114675854, Filed in Dec 2021, (Licensed to Chongqing Fei Xiang Industrial Internet Co., LTD (重庆飞象工业互联网有限公司) https://www.feiiplat.com/)
3. Y. Pang, "System Component Failure Diagnosis", US9916194 B2, Granted in Mar, 2018
4. J.W. Chen, M. Donovang-Kuhlisch, R. Faferko, Y.X. Liu, Y. Pang, "Application Service Aggregation and Management", US9760952 B2, Granted in Sep, 2017. (The Cloud Service Broker designed in this patent has been incorporated in IBM Cloud Computing product offerings: https://www.ibm.com/services/cloud/multicloud)
5. Y. Pang, J. Xu, "System and Method for Intelligent Advertisement using CAPTCHAs", CN820130769, Granted in May, 2015
6. Y. Pang, "Method and System for Building Mathematical Optimization Model using Interactive Graphical Pipeline", IPCOM000237716D, Published in Oct, 2014

7. H.T. Peng, Y. Pang, Y. Zhang, L. Nie, Y.Z. Cui, "System and Method of Smart Traffic Control based on Prediction", IPCOM000236690D, Published in Apr, 2014

8. Y. Pang, Y.Z. Cui, and Philip Starhill, "New format for mathematical optimization model", IPCOM000220104D, Published in Apr, 2012 (The ALP optimization file format in IBM ILOG CPLEX Studio is from this invention disclosure)

9. "Method and System for Printed Circuited Board Production Scheduling", by Y. Pang, Y.S. Yip and H. Zhang, Motorola Invention Disclosure CML07329, Nov, 2008

10. "Evaluation and Benchmarking Method for Surface Mount Technology Assembly Line", by Y. Pang, K.T. Kee, Motorola Invention Disclosure CML07341, Dec, 2008

PUBLICATIONS (selected)

Refereed Papers

1. P.H. Mai and Y. Pang, "Vertical Federated Graph Convolution Network for Recommender System", accepted by Fortieth International Conference on Machine Learning (ICML 2023) https://arxiv.org/abs/2303.05786

2. W.Q. Li, Yinchuan Li, Zhigang Li, Jianye Hao, Y. Pang, "DAG Matters! A Flow Network Enhanced Explainer for Graph Neural Networks", accepted by Eleventh International Conference on Learning Representations (ICLR 2023) https://arxiv.org/abs/2303.02448

3. Yichu Xu, W.Q. Li, Yinchuan Li, Yunfeng Shao, Y. Pang, De-Chuan Zhan, "Two Important Things To Do Before Federated Training", accepted by Eleventh International Conference on Learning Representations (ICLR 2023)

4. P.H. Mai, X.R. Gao, Y. Pang, "Differentially Private Matrix Factorization with Secure Aggregation and Random Projection" – submitted to Fortieth International Conference on Machine Learning (ICML 2023)

5. W.Q. Li, Y.C. Li, S.Y. Zhu, Y.F. Shao, J.Y. Hao, Y. Pang, "GFlowCausal: Generative Flow Networks for Causal Discovery", submitted to IEEE Transactions on Neural Networks and Learning Systems https://arxiv.org/abs/2210.08185

6. Y. Pang, Zhen Yu, H.S. Zhang, C. Sim, Ashley Chong, "Blockchain Technology Transforms the Pharmaceutical Supply Chain", accepted by Management Business Review, Jan, 2023 (Zuellig Pharma launched a new product, eZTracker, based on this research: https://www.eztracker.io/)

7. P.H. Mai and Y. Pang, "PrivMVMF: Privacy-Preserving Multi-View Matrix Factorization for Recommender Systems", accepted by IEEE Transactions on Artificial Intelligence, Jan, 2023 https://arxiv.org/abs/2210.07775

8. L. Du and Y. Pang, "A novel data-driven methodology for influenza outbreak detection and prediction", Sci Rep 11, 13275 (2021). https://www.nature.com/articles/s41598-021-92484-6 (Zuellig Pharma launched a new product, Infection Watch Initiative, based on this research: https://iwi.zuelligpharma.com/)

9. David De Cremer, Y. Pang, "Can Blockchain Manage Trust in Organizations?", Management Business Review, Vol. 1, No. 3, Fall 2021, pp. 83~90, https://mbrjournal.com/2022/01/31/can-blockchain-manage-trust-in-organizations/

10. Y. Pang, "Empowering Small and Medium Enterprises through the Synergy of AI and Blockchain", The European Business Review, Jan 2021, https://www.europeanbusinessreview.com/empowering-small-and-medium-enterprises-through-the-synergy-of-ai-and-blockchain/

11. Y. Pang, "A New Consensus Protocol for Blockchain Interoperability Architecture," in IEEE Access, vol. 8, pp. 153719-153730, 2020, doi: 10.1109/ACCESS.2020.3017549. https://ieeexplore.ieee.org/document/9170602

12. Yu Zhen, Y. Pang, Khor Ping Quek, Cheng Lin, "Geolocation Analysis Framework for Property Price Evaluation", Journal of Real Estate Finance, Fall 2020, pp. 38~52
13. Y. Pang, Ganeshkumar Sundararaj, "Cryptocurrency price prediction using time series and social sentiment data", 6th IEEE/ACM International Conference on Big Data Computing, Applications and Technologies, Dec 2~4, 2019, Auckland, New Zealand
14. Changhua Chen, Y. Pang, "Exploring Machine Learning Techniques for Smart Drainage System", 2019 IEEE Fifth International Conference on Big Data Computing Service and Applications (BigDataService) , Apr, 2019, San Francisco, CA, USA, pp.63-71
15. Jun Sheng Lee, Denis Zuba, Yan Pang, "Sentiment Analysis of Chinese Product Reviews using Gated Recurrent Unit", 2019 IEEE Fifth International Conference on Big Data Computing Service and Applications (BigDataService) , Apr, 2019, San Francisco, CA, USA, pp.173-182
16. Alwin Zhang, Sean Shao Wei Lam, Nan Liu, Y. Pang, Ling Ling Chan and Phua Hwee Tang, "Development of a Radiology Decision Support System for the Classification of MRI Brain Scans", 5th IEEE/ACM International Conference on Big Data Computing, Applications and Technologies, Dec, 2018, Zurich, Switzerland, (Best Student Paper Finalists)
17. Y. Pang, "How Big Data Analytics Impacts Evidence-based Healthcare", Sigma: Insurance Research, Swiss Re Ltd, Aug, 2016
18. S.K. Ong, Y. Pang and A.Y.C. Nee, "Augmented Reality Aided Assembly Design and Planning", Annals of the CIRP, Vol. 56, No. 1, pp.49 -- 52
19. Y. Pang, M.L. Yuan, A.Y.C. Nee, S.K. Ong and Kamal Youcef-Toumi, "A Markerless Registration Method for Augmented Reality based on Affine Properties", Hobart, Australia. CRPIT, 50. Piekarski, W., Ed. pp. 25-32
20. Y. Pang, A.Y.C. Nee, S.K. Ong, M.L. Yuan and Kamal Youcef-Toumi, "Assembly Feature Design in an Augmented Reality Environment", Assembly Automation, Vol.26, No.1, pp.34-43, January, 2006
21. Y. Pang, A.Y.C. Nee, S.K. Ong and Kamal Youcef-Toumi, "Evaluation and Planning of Manual Assembly on Workstation in an Augmented Reality Environment", Singapore-MIT Alliance Annual Symposium, 17-19 January 2006, Singapore
22. A.Y.C. Nee, S.K. Ong, Y. Pang and J.W.S. Chong, 2006, "Robot Programming and Assembly Design using Augmented Reality", Proceedings of the International Manufacturing Conference with China on Advances in Manufacturing Engineering, IMCC2006, ed. C.Y. Jiang, Northwestern Polytechnical University Press, ISBN 7-5612-2132-0, keynote address, 21-23 September 2006, Xian, Shaanxi, China, p. 4
23. Y. Pang, A.Y.C. Nee, Kamal Youcef-Toumi, S.K. Ong and M.L. Yuan, "Assembly Design and Evaluation in an Augmented Reality Environment", Singapore-MIT Alliance Annual Symposium, 19-20 January 2005, Singapore
24. Y.Q. Xia, R.Z. Tang, and Y. Pang, "Research in Production Planning and Scheduling for Semi-process Industry", Modular Machine Tool & Automatic Manufacturing Technique, 2003, No. 1, pp. 12 – 15

Working/Company Papers (selected):
25. Lam Shao Wei, Teo Joo Keng, Chiew Koon Yeow, Rajagopal Mohanavalli, Y. Pang, Ong Eng Hock, "Predictive Analytics for the Waiting Times of Critical Patients in the Emergency Department", SGH 21st Annual Scientific Meeting, Apr, 2015
26. Y. Pang, Xin Sheng Mao, "Next Generation Information Technology", chapter in the National Report of "China's 12th Five-Year Development Plan", published by China National Development and Reform Commission (NDRC), Nov, 2012
27. Y. Pang, L. Lian, "An ontology-based Asset Portal for Harvesting Optimization Solution Assets", IBM GCG RTE Conference, Aug, 2010 (**Best Paper Award**)

28. Y. Pang, G. LAM, R. McLAIN, Y. Bai, C.L. Ren, "FAW Car Chooses Manufacturing Productivity Optimization Solution to Improve Production Productivity and Reduce Cost", IBM IMPACT 2010, May, 2010

29. Y. Pang and Y.S. Yip, "A Production Scheduling Model of Surface Mount Technology Lines", 2008 Motorola Technical Symposium (2008MTS), Jul, 2008

30. Y. Pang, "RFID in Supply Chain Operations: Opportunities and Challenges", Jul, 2007, Motorola Technical Report

31. Y. Pang, "Design for Logistics", Oct, 2007, Motorola Technical Report

Book (chapter):

32. Prashant Jain, Y. Pang, "Cloud Computing Architecture Patterns", Chapter on "Handbook of Research on End-to-End Cloud Computing Architecture Design", IGI Global Publisher, July 2016

Technology Column Articles:

I am a part-time tech columnist for Lianhe Zaobao (联合早报) and Think China (https://www.zaobao.com.sg/byline/pang-yan) (https://www.thinkchina.sg/jamespang)

33. Y. Pang, Yonggang Wen, "ChatGPT will permeate all facets of our work and like", Think China, Apr, 2023, https://www.thinkchina.sg/chatgpt-will-permeate-all-facets-our-work-and-life

34. Y. Pang, "How geopolitics will drastically change chip manufacturers' ecosystem", Jan, 2023, https://www.thinkchina.sg/how-geopolitics-will-drastically-change-chip-manufacturers-ecosystem;

    庞严，"中美竞争下世界半导体业何去何从？"，联合早报，Jan, 2023, https://www.zaobao.com.sg/forum/views/story20230201-1358489

35. Y. Pang, X.J. Liang, "Metaverse: What is it and Who's in control?", Think China, Mar, 2022, https://www.thinkchina.sg/metaverse-what-it-and-whos-control;

    庞严，梁信军，"解析元宇宙及中美元宇宙发展现状",联合早报，May, 2022, https://www.zaobao.com.sg/forum/views/story20220530-1277697

36. Y. Pang, "Who is winning the AI race: US or China", Think China, Dec, 2021, https://www.thinkchina.sg/who-winning-ai-race-us-or-china;

    庞严，"中美人工智能竞争分析",联合早报，Dec,2021，http://www.kzaobao.com/mon/keji/20211213/106354.html

37. Y. Pang, "Why no country can win the chip war", Think China, Aug, 2021, https://www.thinkchina.sg/why-no-country-can-win-chip-war

38. Y. Pang, "China's central bank digital currency (CBDC) innovations", Think China, Jun, 2021, https://www.thinkchina.sg/chinas-central-bank-digital-currency-cbdc-innovations;

    庞严，"解析中国央行数码货币及数码人民币"，联合早报，Jul，2021，https://www.zaobao.com.sg/forum/views/story20210705-1164777

39. Y. Pang, "How China took the lead in the digital currency race", Think China, Jun, 2021, https://www.thinkchina.sg/how-china-took-lead-digital-currency-race

40. Y. Pang, "Has China surpassed the US in the 5G race?", Think China, Mar, 2021, https://www.thinkchina.sg/has-china-surpassed-us-5g-race;

    庞严，"5G的中美之争及展望"，联合早报，Apr，2021，https://www.zaobao.com.sg/forum/views/story20210422-1141200

International Conference Presentations and Talks (selected)

41. *SAP Academic Community Conference APJC, Jul* 2022, Melbourne, Australia, (Topic: How to Train the Next Generation Talents)

42. *SAP Global Analytics and Data Conference,* Jun, 2021 (Topic: The Synergy between Federated Learning and Blockchain - A New AI Learning Paradigm with Privacy Protection)
43. *6th IEEE/ACM International Conference on Big Data Computing, Applications and Technologies (BDCAT2019),* Dec, 2019, Auckland, New Zealand (Topic: Cryptocurrency price prediction using time series and social sentiment data)
44. *China Digital Asset Annual Forum*, Jul, 2019, Chongqing, China (Topic: The Outlook of Digital Asset Era: Challenges and Opportunities)
45. *2019 IEEE Fifth International Conference on Big Data Computing Service and Applications (BigDataService)*, Apr, 2019, San Francisco, USA (Topic: Exploring Machine Learning Techniques for Smart Drainage System)
46. *2019 IEEE Fifth International Conference on Big Data Computing Service and Applications (BigDataService)*, Apr, 2019, San Francisco, USA (Topic: Sentiment Analysis of Chinese Product Reviews using Gated Recurrent Unit)
47. *China Blockchain and AI Forum,* Mar, 2019, Chongqing, China (Topic: The synergy between Big Data, AI and Blockchain)
48. *Singapore WOLOT Foundation Forum*, Singapore, Jan, 2019, Singapore (Topic: Cryptocurrency Value Evaluation Framework)
49. *5th IEEE/ACM International Conference on Big Data Computing, Applications and Technologies (BDCAT2018),* Dec, 2018, Zurich, Switzerland (Topic: Development of a Radiology Decision Support System for the Classification of MRI Brain Scans)
50. *China-ASEAN Digital Economy Summit*, Dec, 2018, Nanning, Guangxi, China, (Topic: The Frontiers in Artificial Intelligence)
51. *AACSB Asia Pacific Annual Conference*, Oct, 2018, Nagoya, Japan, (Topic: Incorporating Tech Trends into the Business Analytics Education)
52. *The 3rd China-ASEAN Information Harbor Forum*, Sep, 2018, Nanning Guangxi, China, (Topic: The Synergy of AI and BlockChain)
53. *China BlockChain Innovation and Application Associate Conference*, Jun, 2018 Chongqing, China, (Topic: Singapore FinTech and BlockChain Strategy and Landscape)
54. *Internet Thinker Conference*, Nov, 2017, Singapore, (Topic: Rethink of Artificial Intelligence)
55. *The 3rd Global Healthcare Big Data Conference*, Nov 9~11, 2017, Shenzhen, China, (Topic: Healthcare Analytics Key Technologies)
56. *2017 Global Big Data for Healthcare Workshop*, Peking University, Jan, 2017, Beijing, China, (Topic: Healthcare Operations Analytics)
57. *Europe Data Science Conference (EDSC) 2016*, Nov, 2016, Luxembourg, (Keynote: Big Data and Business Analytics: Accelerating Digital Transformation in Enterprises and Industries)
58. *China Smart Enterprise Summit 2016*, Sep, 2016, Boao, Hainan, China, (Topic: Big Data Analytics and Optimization in Supply Chain Planning)
59. *Big Data for Precision Medicine Conference*, The University of Hong Kong, Jun, 2016, Hong Kong, China, (Topic: A Study of Personalized Patient Treatment in Rheumatoid Arthritis (RA))

Media Coverage (selected)
60. CNA938 Tech Talk, Aug, 2022, (Topic: Non-Fungible Token (NFT) hype)
61. *Singapore MediaCorp* Channel 8 十分访谈, May, 2022, (Topic: Why Terra Luna and UST crash?) https://www.8world.com/stories/hello-singapore/straight-talk-risk-of-stable-coins-and-cryptocurrencies-1813846

62. *Singapore MediaCorp* Channel 8 狮城有约, Dec, 2021, (Topic: Real Estate Investment in Metaverse) https://www.8world.com/stories/hello-singapore/straight-talk-metaverse-virtual-property-1669956

63. Xinhua (新华社), Nov, 2021, (Topic: The impact of China's application to join the Digital Economy Partnership Agreement (DEPA)) http://world.people.com.cn/n1/2021/1104/c1002-32273762.html

64. Lianhe Zaobao (联合早报), 中新建交 30 特别论坛, Dec, 2020, (Topic: China tech industry present and future outlook) https://www.zaobao.com.sg/znews/singapore/story20201218-1109625

65. CNA (Channel News Asia), Dec, 2020, (Topic: Impact of DBS to launch world's first crypto exchange backed by a traditional bank) https://www.youtube.com/watch?v=JtG6h94-wWg

66. China Business Network (第一财经), Mar, 2020, (Topic: COVID-19 impact on global supply chain)

67. Singapore MediaCorp Capital 958, Jan, 2020, (Topic: Singapore Digital Bank License and its impact in the financial industry)

68. 21st Century Business Herald (21 世纪经济报道), Jan, 2020, (Topic: The Cloud Computing Technology and Market Development in South East Asia)

69. *Singapore MediaCorp Channel 8* 财经追击, Jul, 2019, (Topic: The impact of Facebook Libra in the global finance system)

70. CCTV (Chine Central Television) securities information channel (中国中央电视台财经证券资讯频道), May, 2019, (Topic: Focus on BlockChain 聚焦区块链)

71. Xinhua Finance, Dec, 2018, (Topic: Why can Singapore become a global blockchain hub?)

72. Singapore MediaCorp Capital 958, Oct, 2014, (Topic: IBM Watson AI technology and its application in education)

Company Invited Talks (selected)

73. *SAP AI Community Forum*, Aug, 2022 (Topic: Data Scientist Skills for the Future)

74. *Julius Baer Blockchain Innovation Forum*, May, 2022 (Topic: Blockchain and Crypocurrency – Hype Or Trend?)

75. *Huawei Seeds For The Future Conference,* Singapore, Dec, 2021 (Topic: Skills for the Future)

76. *ZhongXin (Chongqing) Enterprise Forum*, Chongqing, China, Nov, 2021 (Topic: Industry 4.0 and Digital Transformation)

77. *PSA Data Festival*, Singapore, Sep, 2020 (Topic: Synergy Between Federated Learning and Blockchain)

78. *Dyson Global Data Science Annual Conference,* Singapore, Sep, 2019 (Topic: Business Analytics Landscape and Future Outlook)

79. *Johnson & Johnson Advanced Analytics Seminar*, Singapore, Aug, 2019 (Topic: Co-Innovations between Industry and Academia in Business Analytics)

80. *BYD Smart Manufacturing Seminar*, Shenzhen, China, May, 2019 (Topic: Optimization-based Production Planning and Scheduling in Automotive Industry)

81. *DELL Technical Forum*, Singapore, Oct, 2018 (Topic: The Smart Supply Chain)

82. *IBD Technology Technical Forum*, Singapore, Sep 2018, (Topic: BlockChain Transforms Traditional Loyalty Programs)

83. *Zhejiang University Research Seminar*, Hangzhou, Zhejiang, China, Jun, 2018 (Topic: Business Analytics: Progress on Applications and Future Outlook)

84. *FAW Manufacturing System Workshop*, Changchun, Jilin, China, Jun, 2018 (Topic: Industry Big Data Analytics and Optimization Platform)

85. *SingHealth Health Services Research Centre Seminar Series*, SingHealth, Singapore, May, 2018 (Topic: Big Data Analytics Transforms Healthcare Industry)

86. *AXA Technology forum*, Jun, 2017, Singapore, (Topic: business Transformation under ABCD Technologies)

87. *HuaWei Enterprise Digitalization – Operations Transformation Global Conference,* Singapore, 24 May, 2017 (Panel Discussion Member, Topic: Digital Transformation in Global Enterprise)

88. *IHiS Healthcare Technology Seminar*, Integrated Healthcare Information Systems Pte Ltd, Singapore, Jun, 2016 (Topic: Key Technologies in Healthcare Analytics)

89. *Microsoft Singapore Data Scientist Seminar*, Singapore, May, 2015 (Topic: Fundamentals in Business Analytics)

90. *IBM GMU Technical Conference*, Dubai, UAE, Feb, 2014 (Topic: Healthcare Analytics Reference Architecture)

91. *Singapore Healthcare Analytics Workshop*, IBM, Singapore, Nov, 2013 (Topic: The Next Frontier in Healthcare Analytics)

92. *Social Program Management Solution Technical Workshop*, Ministry of Social and Family Development, Singapore, Sep, 2013 (Topic: Analytics in Next Generation Social Service Platform)

93. *IRAS Technical Workshop*, Inland Revenue Authority of Singapore, Singapore Aug, 2013 (Topic: Apply Watson Cognitive Computing Technology in Citizen Service)

94. *IBM Healthcare Architect Annual Meeting*, Dallas, TX, US, Jun, 2013 (Topic: Healthcare Process Improvement – A Case Study from Singapore)

95. *Customs Solution Technical Workshop*, Singapore Customs, Singapore, Jan, 2013 (Topic: The Vision and Architecture Design of New TradeNet and TradeXchange)

96. *SuNing e-Commerce Symposium*, SuNing, Nanjing, Jiangsu, China, Jun, 2012 (Topic: Supply Chain Network Optimization and Inventory Optimization)

97. *IBM China Research and Development Open Day*, Beijiang, China, May, 2012 (Topic: Optimization-based Production Planning and Scheduling)

98. *Alibaba Cloud Computing Seminar,* Hangzhou, China, Mar, 2012 (Topic: Cloud Application Platform and API Economy)

99. *Advanced Manufacturing Technical Workshop*, Foton Motor, Beijing, China, Apr 2011 (Topic: Manufacturing Productivity Optimization Solution)

100. *LARC Research Seminar*, Singapore Management University, Singapore, Mar, 2011 (Topic: Advanced Analytics and Optimization (AAO) Framework to Solve Complex Real World Problems)

101. *Supply Chain Management Forum*, Tsingdao Brewery, Qingdao, China, Aug, 2010 (Topic: Production Planning and Scheduling in Process Manufacturing Industry)

102. *FAW production planning and scheduling seminar*, First Automotive Works (FAW), Changchun, China, Jan, 2010 (Topic: Improve Productivity using Optimization-based Production Planning and Scheduling)

103. *Manufacturing Technology Workshop*, Changan Ford, Chongqing, China, Sep, 2009 (Topic: How to Apply Optimization Techniques in Manufacturing System)

104. *Chery Automotive Technical Workshop*, Chery Automotive, Wuhu, Anhui, China, Aug, 2009 (Topic: Supply Chain Optimization)

105. *Manufacturing Technology Forum,* Motorola, Penang, Malaysia, May, 2008 (Topic: The Optimization of Printed Circuit Board Assembly Lines)

RESEARCH GRANT AND INDUSTRY COLLABORATION

Research Grants

1. Principal Investigator, S$200,000, Cross-domain Recommender System, Corp IT and Singapore Data Science Consortium (SDSC), Jul 2021 ~ Jun 2022
2. Co-Principal Investigator, S$300,000, Real-Time Misinformation Assessment and Propagation Analysis with Graph Neutral Networks, Mar 2021 ~ Mar 2024
3. Principal Investigator, S$540,000, Supply chain and production system optimization, FAW Car Pte Ltd, June 2019 ~ May 2021
4. Principal Investigator, S$300,000, Company risk profiling using natural language processing and machine learning techniques, UOB Bank and Singapore Data Science Consortium (SDSC), May 2019 ~ Apr 2020
5. Principal Investigator, Beauty Trend Engine, S$300,000, Meiyume Ptd Ltd and SDSC, Feb 2019 ~ Jan 2021.
6. Principal Investigator, Workforce Planning and Scheduling Optimization, S$220,000, Jurong Port Pte Ltd and SDSC, Jan 2019 ~ Dec 2020.
7. Principal Investigator, Big Data Analytics Platform for Decision Making Support in New Industrial City (NIC), S$160,000, China Fortune Land Development (CFLD) International, Jan 2018 ~ Dec 2020.

Industry Collaboration MoU (Memorandum of Understanding)
1. Huawei, Dec 2021
2. Tigergraph, Nov 2021
3. Zhejiang University Innovation Institute International (ZIII), Dec 2019
4. JINVOVO Technology Pte Ltd, Feb 2019
5. FAW Car (中国一汽) , Dec 2018
6. ALIBABA Cloud, Aug 2018
7. Johnson & Johnson, June 2018
8. ABEJA Inc, Feb 2018
9. China Fortune Land Development (CFLD), Mar 2017

TEACHING AND STUDENT MENTORING

Teaching

Postgraduate Modules:

Explainable AI

Blockchain Technology and Application

Healthcare Analytics

Student Mentoring and Awards

International Activity Mentoring:

Students	*Competition*	*Awards & Date*
Zhen Yu Xhoni Shollaj Ran Yan Junhui Xu	Huawei Cloud Developer Competition APAJ Final 2022	1st Runner-up, Sep, 2022 with prize of USD 5,000 (https://bizbeat.nus.edu.sg/community-news/article/msba-team-shine-in-huawei-developer-competition-2022/)

Xhoni Shollaj Widya Salim Rachel Sng Gino Martelli Tiu	AIxImpact International Case Competition	1st place, Feb, 2022 (https://bizbeat.nus.edu.sg/community-news/article/msba-team-wins-international-ai-case-competition/)
Team 2020 Alexander Baesell Tommy Kangdra Ken Cheah Yu Wenxi Liow Jia Chen Team 2019 Liu Tong Hua Xiuping Jonathan Simon Wagner Chen Yanzhu Solimine Peter Dylan Park Jinseo Team 2018 Shivam Bansal Yi Suqin Ganeshkumar Sundararaj Steven Tseng He Shiyuan Sung Zheng Jie	Chengdu80 FinTech and Analytics competition (participating universities include University of California Berkeley, National University of Singapore, Georgia Institute of Technology, University of Toronto, University of Zurich, Peking University, Tsinghua University, University of Hong Kong, Shanghai Jiaotong University, and SWUFE)	1st Prize in 2020 with prize of SGD 8,000 (https://msba.nus.edu.sg/news/msba-students-win-chengdu-80-fintech-competition-2020/) 2nd Prize in 2019 with prize of SGD 6,000 (https://msba.nus.edu.sg/news/msba-students-first-runners-up-chengdu-fintech-comp-2019/) 1st Prize in 2018 with prize of SGD 8,000 (https://www.comp.nus.edu.sg/news/archives/y2018/2792-2018-chengdu-80-competition//)
Shivam Bansal	Kaggle City of Los Angeles workforce analytics competition	1st Prize with SGD 5,000 Apr 2019 (https://www.kaggle.com/c/data-science-for-good-city-of-los-angeles/discussion/98155)

Student Startups Mentoring

Students	*Startup (Mentoring Period)*	*Highlights*
Gong He	Wuzhi Tech (2021-2022)	Wuzhi Tech has been selected for NUS GRIP (Graduate Research Innovation Programme) round 8 incubation fund support in May 2022.

		Wuzhi Tech's "See Your Voice" solution won 2022's Huawei Tech4City Finals with cash prize of S$10,000. (https://www.straitstimes.com/tech/smart-glove-that-translates-sign-language-into-english-chinese-text-wins-contest)
Uzair Javaid	Betterdata (2021-2022)	Betterdata has raised a seed-fund with S$500k. (https://www.betterdata.ai/)
Jake Goh Davis Gay Jing Rong Lim	RateX (2017)	RateX successfully raised S$ 3million in pre-series A funding round. (https://www.finextra.com/pressarticle/72914/browser-based-payments-startup-ratex-raises-3-million)
Nicholas Ooi Joshua Foong Jane Lee	Bantu (2018-2019)	Bantu won President's Challenge Social Enterprise Award (PCSEA) (Social Enterprise startup of the year) in 2019 President's Challenge. (https://www.raise.sg/president-s-challenge-social-enterprise-award.html)

CONSULTATIONS (Alphabetical Order)

- Alibaba (Big data analytics, AI and Cloud Computing)
- AXA (Big data analytics and AI)
- Baidu (Solution Architecture, Analytics and Optimization)
- Bank of QingDao (Solution Architecture, Analytics and Optimization)
- China Fortune Land Development (CFLD) Co. (Geolocation Analytics)
- Changan Ford Automobile 长安福特 (Production Planning and Scheduling)
- Chery Automobile (Production Planning and Scheduling)
- China Foreign Exchange Trade System (CFETS) (Asset Portfolio Optimization)
- DACHSER (Production Planning and Scheduling)
- DBS (Big data analytics and AI)
- DELL (Supply Chain Analytics and Optimization)
- DHL (Supply Chain Analytics and Optimization)
- Dongfeng Motor Corporation (Production Planning and Scheduling)
- eBeeCare (Analytics and Optimization)
- FAW Car 中国一汽 (Supply Chain and Production Planning and Scheduling)
- GAC Group 广汽集团 (Supply Chain and Production Planning and Scheduling)
- Hongkong International Terminals (Yard Planning Optimization)
- Huawei (Big data analytics, AI and Cloud Computing)
- IBD Technology (Blockchain)
- Integrated Health Information System (IHIS) (Big data analytics and AI)
- Inland Revenue Authority of Singapore (IRAS) (AI Chatbot)
- Jinvovo Technology Group (Big data analytics, AI and Blockchain)
- Johnson & Johnson (Big data analytics and AI)
- Jurong Port (workforce planning and scheduling)

- Luxembourg Institute of Science and Technology (LIST) (Big data and AI)
- Marina Bay Sands (Analytics and Optimization)
- Meiyume (Big data Analytics and AI)
- Microsoft (Analytics and Optimization)
- Ministry of Health Holding (MOHH) (Big data analytics and AI)
- Ministry of Social and Family Development (MSF) (Analytics and Optimization)
- Neptune Orient Lines (NOL) (Empty Container Relocation Optimization)
- RICHTEK (Supply Chain Planning)
- SAP (Big data analytics and AI)
- Shanghai Electric Group (Production Line Planning and Scheduling)
- Shanghai GM Automobile 上汽通用 (Production Line Planning and Scheduling)
- Singapore Customs (Analytics and Cloud Computing)
- Singapore Tourism Board (big data analytics and AI)
- SingHealth (Big data analytics and AI)
- State Street Corporation (Asset Analytics and Optimization)
- Swiss Re (Big data analytics and AI Strategy)
- Tetra Pak (Big data analytics and AI)
- Tigergraph (Analytics and AI)
- United Overseas Bank (UOB) (Analytics and AI)