

GENG Minghong

PHD IN COMPUTER SCIENCE · SINGAPORE MANAGEMENT UNIVERSITY

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Education

Singapore Management University

PHD IN COMPUTER SCIENCE

- Supervisor: Prof. TAN Ah Hwee

Singapore

2021 - present

Singapore Management University

MASTER OF BUSINESS ANALYTICS (MITB)

- Analytics track

Singapore

2019 - 2020

Southwestern University of Finance and Economics

BACHELOR OF ECONOMICS

- Major in Finance

China

2014 - 2018

Professional Experience

- 2024-2025 **Visiting Student**, Beijing National Research Center for Information Science and Technology, Tsinghua University
- 2025 **Research Assistant**, School of Computing and Information Systems, Singapore Management University
- 2020-2021 **Research Engineer**, School of Computing and Information Systems, Singapore Management University
- 2020 **Data Science Intern**, Global Data Science (Artificial Intelligence) Department, MSD

Publications

PUBLISHED

- Minghong Geng**, Shubham Pateria, Budhitama Subagdja, and Ah-Hwee Tan. 2025. MOSMAC: A Multi-agent Reinforcement Learning Benchmark on Sequential Multi-Objective Tasks. In Proceedings of the 24th International Conference on Autonomous Agents and Multiagent Systems (AAMAS '25). International Foundation for Autonomous Agents and Multiagent Systems, Richland, SC. URL: <https://dl.acm.org/doi/10.5555/3709347.3743605> (**A***, **Main Track Full Paper**, 10 pages)
- Minghong Geng**. 2025. Hierarchical Frameworks for Scaling-up Multi-agent Coordination. In Proceedings of the 24th International Conference on Autonomous Agents and Multiagent Systems (AAMAS '25). URL: <https://dl.acm.org/doi/10.5555/3709347.3744052> (**A***, **Doctoral Consortium**, 3 pages)
- Minghong Geng**, Shubham Pateria, Budhitama Subagdja, and Ah-Hwee Tan. 2024. Benchmarking MARL on Long Horizon Sequential Multi-Objective Tasks. In Proceedings of the 23rd International Conference on Autonomous Agents and Multiagent Systems (AAMAS '24). International Foundation for Autonomous Agents and Multiagent Systems, Richland, SC, 2279–2281. URL: <https://dl.acm.org/doi/10.5555/3635637.3663133> (**A***, **Main Track Extended Abstract**, 3 pages)
- Khaing Phyo Wai, **Minghong Geng**, Shubham Pateria, Budhitama Subagdja, and Ah-Hwee Tan. 2024. Explaining Sequences of Actions in Multi-agent Deep Reinforcement Learning Models. In Proceedings of the 23rd International Conference on Autonomous Agents and Multiagent Systems (AAMAS '24). International Foundation for Autonomous Agents and Multiagent Systems, Richland, SC, 2537–2539. URL: <https://dl.acm.org/doi/10.5555/3635637.3663219> (**A***, **Main Track Extended Abstract**, 3 pages)
- Minghong Geng**. 2024. Scaling up Cooperative Multi-agent Reinforcement Learning Systems. In Proceedings of the 23rd International Conference on Autonomous Agents and Multiagent Systems (AAMAS '24). International Foundation for Autonomous Agents and Multiagent Systems, Richland, SC, 2737–2739. URL: <https://dl.acm.org/doi/10.5555/3635637.3663271> (**A***, **Doctoral Consortium**, 3 pages)

- Minghong Geng**, Shubham Pateria, Budhitama Subagdja, and Ah-Hwee Tan. 2024. HiSOMA: A hierarchical multi-agent model integrating self-organizing neural networks with multi-agent deep reinforcement learning. Expert Systems with Applications, 124117. URL: <https://doi.org/10.1016/j.eswa.2024.124117> (**A**, **Full Paper**, **11 pages**)
- Khaing Phyo Wai, **Minghong Geng**, Budhitama Subagdja, Shubham Pateria, and Ah-Hwee Tan. 2023. Towards Explaining Sequences of Actions in Multi-Agent Deep Reinforcement Learning Models. In Proceedings of the 2023 International Conference on Autonomous Agents and Multiagent Systems (AAMAS '23). International Foundation for Autonomous Agents and Multiagent Systems, Richland, SC, 2325–2327. URL: <https://dl.acm.org/doi/10.5555/3545946.3598922> (**A***, **Main Track Extended Abstract**, **3 pages**)

IN PRESS

- Minghong Geng**, Shubham Pateria, Budhitama Subagdja, Lin Li, Xin Zhao, and Ah-Hwee Tan. 2025. L2M2: A Hierarchical Framework Integrating Large Language Model and Multi-agent Reinforcement Learning. Accepted at the 34th International Joint Conference on Artificial Intelligence (IJCAI '25). (**A***, **Main Track Full Paper**, **9 pages**)
- Minghong Geng**, Shubham Pateria, Budhitama Subagdja, and Ah-Hwee Tan. 2025. Scaling up Multi-agent Reinforcement Learning for Large Agent Teams and Long-horizon Tasks: A Survey. Conditionally accepted to ACM Computing Survey. (**A***, **Full Paper**, **35 pages**)

Presentations

** presenting author*

CONTRIBUTED PRESENTATIONS

- Minghong Geng***, Shubham Pateria, Budhitama Subagdja and Ah-Hwee Tan. May 2025. MOSMAC: A Multi-agent Reinforcement Learning Benchmark on Sequential Multi-Objective Tasks. Oral presentation and Poster: AAMAS 2025, Detroit, United States.
- Minghong Geng**. May 2025. Hierarchical Frameworks for Scaling-up Multi-agent Coordination. Elevator Pitch and Poster: AAMAS 2025, Detroit, United States.
- Minghong Geng***, Shubham Pateria, Budhitama Subagdja and Ah-Hwee Tan. May 2025. Frameworks and Benchmarks for Scaling up MARL. Pre-conference Talks for AAMAS 2025: School of Computing and Information Systems, Singapore Management University. [Link to Talk]
- Minghong Geng**. May 2024. Scaling up Cooperative Multi-agent Reinforcement Learning Systems. Elevator Pitch and Poster: AAMAS 2024, Auckland, New Zealand. [Link to Poster]
- Minghong Geng***, Shubham Pateria, Budhitama Subagdja and Ah-Hwee Tan. May 2024. Benchmarking MARL on Long Horizon Sequential Multi-Objective Tasks. Poster: AAMAS 2024, Auckland, New Zealand. [Link to Poster]
- Khaing Phyo Wai, **Minghong Geng***, Budhitama Subagdja, Shubham Pateria, and Ah-Hwee Tan. May 2024. Explaining Sequences of Actions in Multi-agent Deep Reinforcement Learning Models. Poster: AAMAS 2024, Auckland, New Zealand. [Link to Poster]
- Minghong Geng***, Khaing Phyo Wai, Shubham Pateria, Budhitama Subagdja and Ah-Hwee Tan. May 2024. Scaling, Benchmarking, and Explaining Cooperative MARL Methods. Pre-conference Talks for AAMAS 2024: School of Computing and Information Systems, Singapore Management University. [Link to Talk]
- Khaing Phyo Wai*, **Minghong Geng**, Budhitama Subagdja, Shubham Pateria, and Ah-Hwee Tan. May 2023. Towards Explaining Sequences of Actions in Multi-Agent Deep Reinforcement Learning Models. Poster: AAMAS 2023, London, United Kingdom. [Link to Poster]

Teaching Experience

- Jan 2024 **ISSS609: Text Analytics and Applications**, Senior Teaching Assistant
- May 2023 **ISSS616: Applied Statistical Analysis with R**, Senior Teaching Assistant
- Jan 2023 **ISSS609: Text Analytics and Applications**, Senior Teaching Assistant
- Aug 2020 **ISSS616: Applied Statistical Analysis with R**, Teaching Assistant

Awards, Fellowships & Grants

- 2025 **Global Young Scientists Summit (GYSS) 2026 Nominee**, Singapore Management University
- 2025 **FSCI 2025 Scholarship**, FORCE11 Scholarly Communication Institute (FSCI)
- 2025 **IJCAI 2025 Travel Grant**, International Joint Conferences on Artificial Intelligence (IJCAI) Organization and IJCAI Artificial Intelligence Journal (AIJ) Division
- 2025 **IJCAI 2025 Volunteer Grant**, International Joint Conferences on Artificial Intelligence (IJCAI) Organization and IJCAI Artificial Intelligence Journal (AIJ) Division
- 2025 **AAMAS 2025 Student Scholarship**, International Foundation for Autonomous Agents and Multiagent Systems (IFAAMAS) and ACM Special Interest Group on Artificial Intelligence (ACM SIGAI)
- 2024 **AAMAS 2024 Student Scholarship**, International Foundation for Autonomous Agents and Multiagent Systems (IFAAMAS) and ACM Special Interest Group on Artificial Intelligence (ACM SIGAI)
- 2021-pres. **SMU Full Scholarship**, School of Computing and Information Systems, Singapore Management University

Outreach & Professional Development

SERVICE AND OUTREACH

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|------|--|-----------------------------------|
| 2025 | The 34th International Joint Conference on Artificial Intelligence (IJCAI 2025) ,
International Student Volunteer | <i>Montréal,
Canada</i> |
| 2025 | The 24th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2025) , Session Chair | <i>Detroit,
United States</i> |
| 2025 | The 24th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2025) , International Student Volunteer | <i>Detroit,
United States</i> |
| 2025 | Workshop on Frontiers of Artificial General Intelligence (AGI) , Student Volunteer | <i>Singapore</i> |
| 2024 | The 23rd International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2024) , International Student Volunteer | <i>Auckland,
New Zealand</i> |
| 2022 | 2022 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2022) , Student Volunteer | <i>Singapore</i> |

PEER REVIEW

Conferences

- ICML **2025**, Main Track Reviewer/PC Member
- AAMAS **2025**, Main Track Reviewer/PC Member
- ICLR **2025**, Main Track Reviewer/PC Member
- IEEE SSCI **2022**, Main Track Reviewer/PC Member

Journals

- 2023-pres. **IEEE TETCI**, Reviewer
- 2023-pres. **IEEE CIM**, Reviewer

PROFESSIONAL MEMBERSHIPS

- 2025-pres. **IJCAI**, Member
- 2023-pres. **IEEE**, Student Member