

# Research Statement

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20 (Day) 12 (Month) 2024 (Year)

## Background

I aim to do state-of-the-art and impactful research that is aligned with SMU's priorities and Singapore's strategic information technology initiatives. My research should benefit Singapore, Asia, and the rest of the world. My research findings should contribute to both academia and practice.

## Research Areas

My current research interests can be classified into the following areas:

- (i) **Digital Transformation and Smart Nation**  
Information systems and technologies are transforming our work, lives, and society. As we progress to a Smart Singapore and a digital society, we must embrace the digital economy, healthcare, education, transportation, government services, and businesses. This research stream looks at the opportunities enabled by new technologies and the challenges presented by these latest developments. How do we prepare the citizens for these new technologies (e.g., education, reskilling, retraining)? How do we implement these technologies in our businesses, organizations, and societies? How do we address the challenges presented by these new technologies? How do we ensure that Singapore citizens and residents benefit from digital transformation?
- (ii) **Artificial Intelligence (AI)**  
The rapid advancement of AI is creating many business opportunities, but it is also generating many new issues. The exponential advancement of AI, such as ChatGPT, Sora, and Figure 01, has shocked the world. Artificial Narrow Intelligence (ANI), Generative AI (GenAI), Agentic AI, and Artificial General Intelligence (AGI) are presenting unprecedented problems for us to plan for the future of work, the future of society, and the future of humanity. This research stream investigates how AI affects individuals, groups, organizations, societies, and humanity. How do we prepare for the AI age? How do we develop AI systems that are tailored to Singapore and Asia? How can we take advantage of GenAI? How should organizations and businesses get ready for the potential arrival of AGI? How do we govern the development and adoption of AI in organizations and societies?

## (iii) Metaverse and Meta-Entrepreneurship

Metaverse is the next generation of the Internet. It is a virtual environment where an organization can start new business operations, and innovative individuals can create new businesses. This stream of research looks at meta-entrepreneurship. What are the possible new business opportunities in Metaverse? What are the obstacles for organizations when planning to start new business operations in Metaverse? How do we remove these obstacles? How do we address the legal concerns and apprehensions? How can one be an entrepreneur in this digital environment? How do we encourage innovative individuals to start new businesses in Metaverse? How do we integrate Metaverse's virtual nature with AI's power to empower businesses?

*(Please take the time to describe your interests and ideas in intellectually stimulating and interesting ways. Do not just rely on a list of paper titles to convey what is interesting and exciting. Write your statement in a way that highlights interesting questions, ways of pursuing these questions, and the types of insights you are accumulating.)*

### Selected Publications and Outputs

1. Huo, X., Siau, K., "Generative Artificial Intelligence in Business Higher Education: A Focus Group Study," *Journal of Global Information Management*, Vol. 32, No. 1, 2024, pp. 1-21. (forthcoming)
2. Zhang, Y., Siau, K., "Meta-Entrepreneurship: An Analysis Theory on Integrating Generative AI, Agentic AI and Metaverse for Entrepreneurship," *Journal of Global Information Management*, Vol. 32, No. 1, 2024, pp. 1-21. (forthcoming)
3. Wang, Y., Wang, L., Siau, K., "Human-Centered Interaction in Virtual Worlds: A New Era of Generative Artificial Intelligence and Metaverse," *International Journal of Human-Computer Interaction*, 2024 (forthcoming)
4. Qian, Y., Siau, K., Nah, F., "Societal Impacts of Artificial Intelligence: Ethics, Legal, and Governance Issues," *Societal Impacts*, Vol. 3, 2024 (forthcoming)
5. Schiller, S., Nah, F., Luse, A., Siau, K., "Men Are from Mars and Women Are from Venus: Dyadic Collaboration in the Metaverse," *Internet Research*, Vol. 34, No. 1, 2024, pp. 149-173.
6. Nah, F., Zheng, R., Cai, J., Siau, K., Chen, L., "Generative AI and ChatGPT: Applications, Challenges, and AI-Human Collaboration," *Journal of Information Technology Case and Application Research*, Vol. 25, No. 3, 2023, pp. 277-304.

7. Yang, Y., Siau, K., Xie, W., Sun, Y., “Smart Health: Intelligent Healthcare Systems in the Metaverse, Artificial Intelligence, and Data Science Era,” *Journal of Organizational and End User Computing*, Vol. 34, No. 1, 2022, pp. 1-14.
8. Siau, K., Wang, W., “Artificial Intelligence (AI) Ethics – Ethics of AI and Ethical AI,” *Journal of Database Management*, Vol. 31, No. 2, 2020, pp. 74-87.
9. Wang, W., Siau, K., “Artificial Intelligence, Machine Learning, Automation, Robotics, Future of Work, and Future of Humanity – A Review and Research Agenda,” *Journal of Database Management*, Vol. 30, No. 1, 2019, pp. 61-79.
10. Nah, F., Schiller, S., Mennecke, B., Siau, K., Eschenbrenner, B., Sattayanuwat, P., “Collaboration in Virtual Worlds: Impact of Task Complexity on Team Trust and Satisfaction,” *Journal of Database Management*, Vol. 28, No. 4, 2017, pp. 60-78.
11. Siau, K., Nah, F., Mennecke, B., Schiller, S., “Co-creation and collaboration in a virtual world: A 3D visualization design project in Second Life,” *Journal of Database Management*, Vol. 21, No. 4, 2010, pp. 1-13.
12. Siau, K., Erickson, J., Nah, F., “Effects of National Culture on Types of Knowledge Sharing in Virtual Communities,” *IEEE Transactions on Professional Communication*, Vol. 53, No. 3, 2010, pp. 278-292.