AOI NAITO

Carnegie Mellon University
Human-Computer Interaction Institute
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EDUCATION

Ph.D. in Social Psychology **March 2023**
The University of Tokyo, Tokyo, Japan
Dissertation title: An Empirical Study on the Cognitive Basis of Collective Intelligence through Computational Modeling
Advisor: Professor Tatsuya Kameda

MA in Social Psychology **March 2020**
The University of Tokyo, Tokyo, Japan

BA in Psychology **March 2018**
Kyoto University, Kyoto, Japan

RESEARCH EXPERIENCE

Visiting Postdoctoral Fellow **2023-present**
Human-Computer Interaction Institute, Carnegie Mellon University

- Lead research projects investigating the impact of AI predictions on rational decision-making
- Lead a study on cultural transmission in AI-assisted coding
- Developed an online collective reasoning task (hidden profile task) integrated with AI suggestions and bot functionalities
- Advisor: Hirokazu Shirado

JSPS Research Fellow (Category: CPD) **2023-present**
JSPS Research Fellow (Category: PD) **2023**
School of Environment and Society, Institute of Science Tokyo (formerly Tokyo Institute of Technology)

- Awarded competitive government funding for independent research (Acceptance rate: ~20% for the PD category, with the CPD category awarded to the top ~30% of those recipients)
- Engaged in research on “Facilitating Collective Intelligence via AI Bots: Combining Computational Models and Large-Scale Group Experiments”
- Advisor: Kazutoshi Sasahara

JSPS Research Fellow (Category: DC1) **2020-2023**
Graduate School of Humanities and Sociology, The University of Tokyo

- Engaged in research on “The Wisdom of Crowds in Dynamic Social Environments:

Psychological, Neural, and Ecological Foundations."
- Advisor: Tatsuya Kameda

SKILLS

- **Programming & Analysis:** Python, R, SQL
- **Experiment & Web Development:** Node.js, Next.js, HTML/CSS, JavaScript, Qualtrics
- **Languages:** Japanese (Native), English (Fluent)

TEACHING EXPERIENCE

Teaching Assistant

Summer Institute in Computational Social Science (SICSS-Tokyo) **2023**
Graduate School of Humanities and Sociology, The University of Tokyo **2018-2022**

Graduate Research Mentoring

Carnegie Mellon University **2024-present**

- Developed and conducted online human experiments with graduate students. Supervised design, simulation, analyses, and manuscripts. A paper is submitted, additional manuscript for a journal publication is in prep.

PUBLICATIONS

(Accepted)

Suganuma, H., **Naito, A.**, Katahira, K., & Kameda, T. (2025) When to stop social learning from a predecessor in an information-foraging task. *Evolutionary Human Sciences*, 7, e2.

Naito, A., Masuda, N., & Kameda, T. (2024) Collective Intelligence Under a Volatile Task Environment: a Behavioral Experiment Using Social Networks and Computer Simulations. *Interdisciplinary Information Sciences*, 30(1): 1-12.

Samore, T., Fessler, D. M. T., ..., **Naito, A.**, ..., & Wang, X. (2023) Accordance and conflict between religious and scientific precautions against COVID-19 in 27 societies. *Religion, Brain & Behavior,* 13, 4969.

Samore, T., Fessler, D. M. T., ..., **Naito, A.**, ..., & Wang, X. (2023) Grater traditionalism predicts COVID-19 precautionary behaviors across 27 societies. *Scientific Reports*, 13, 4969.

Naito, A., Katahira, K., & Kameda, T. (2022) Insights about the common generative rule underlying an information foraging task can be facilitated via collective search. *Scientific Reports*, 12, 8047.

Naito, A., & Kameda, T. (2022) Rational basis of social learning process underlying collective intelligence. *Cognitive Studies: Bulletin of the Japanese Cognitive Science Society*, 29(3), 354-363 (in Japanese)

(Submitted)

Naito, A., Shirado H. (2026) AI leads people to forgo guaranteed rewards. *arXiv preprint*.

Li, Y., **Naito, A.**, Shirado, H. (2025) Systematic Failures in Collective Reasoning under Distributed Information in Multi-Agent LLMs. *arXiv preprint*.

(In Preparation)

Naito, A., Shirado H. Self-fulfilling prophecy of AI in human cooperation.

Naito, A., Claggett, E. & Shirado, H. AI assistance drives cross-lineage convergence in coding practices.

INVITED TALK

Naito, A., Claggett, E., & Shirado, H. "Experiments on cultural evolution with AI assistance in social coding." *Human Nature Lab*, Yale University, New Haven, April 25th, 2024.

Naito, A. & Shirado, H. "Development of novel methodologies to investigate how AI will deflect cultural evolution." *Asian Advanced Workshop on Social Decision Making and Collective Intelligence*, Tokyo, December 16th-17th, 2023.

Naito, A., Katahira, K., & Kameda, T. "Insights about the common generative rule underlying an information foraging task can be facilitated via collective search." *Human and Machine Cognition Lab*, University of Tübingen, Tübingen, December 8th, 2022.

Naito, A., Masuda, N., & Kameda, T. "Social Network and Collective Intelligence under Non-stationary Uncertain Environment: A Group Experiment and Computer Simulations." *NTU-UT Joint Research Workshop on Experimental Social Sciences*, Tokyo, December 21st - 23rd. 2019.

BOOK CHAPTER

Naito, A. & Kameda, T. "An experimental approach for collective decision making." Takatoshi Imada, ed., *Encyclopedia of Mathematical Sociology* (Tokyo: Maruzen, 2022), p.100-103. (in Japanese)

CONFERENCE PROCEEDINGS

Naito, A., Masuda, N., & Kameda, T. (2019). "Social Network and Collective Intelligence. Under Non-stationary Uncertain Environment." In: Lintas A., Enrico P., Pan X., Wang R., Villa A. (eds) *Advances in Cognitive Neurodynamics (VII)*, pp 263-264. ICCN2019. Springer, Singapore.

HONORS AND AWARDS

Research Fellowships for Young Scientists (Category: PD/CPD), 2023-present
Japan Society for the Promotion of Science,
Award amount: JPY 14,000,000 (approx. $93,300 over 5 years)

Grant for Groundbreaking Young Researchers, Suntory Foundation, 2023-2024
Award amount: JPY 1,000,000 (approx. $6,700)

Research Fellowships for Young Scientists (Category: DC1), 2020-2023
Japan Society for the Promotion of Science,
Award amount: JPY 3,400,000 (approx. $22,700 over 3 years)

Outstanding Presentation Award, 2022
The 85th Annual Convention of the Japanese Psychological Association,
Tokyo, Japan

Young Researcher Award, 2021
Foundation for the Fusion of Science and Technology,
Award amount: JPY 200,000 (approx. $1,300)

Research Grant, Foundation for the Fusion of Science and Technology, 2019-2020
Award amount: JPY 225,000 (approx.$1,500)

Young Researcher Award, Japanese Society of Social Psychology, 2019
Award amount: JPY 100,000 (approx. $670)

Poster Award, The 22nd Experimental Social Science Conference, 2018
Nagoya, Japan

ACADEMIC SERVICES

Reviewer Activities

Communications Psychology, Humanities and Social Sciences Communications, Open Mind, Cognitive Studies

Conference Committee

Machine + Behavior Conference, Berlin 2026
Workshop on AI for Computational Social Science (AI4CSS), *IEEE International Conference on Data Mining (ICDM)*, Washington DC 2025

Community Service

Co-founder of Pittsburgh Japanese Researcher Community (PJR) since 2024

ACADEMIC REFERENCES

Prof. Tatsuya Kameda (PhD advisor)
Director, Center for Interdisciplinary Informatics
Meiji Gakuin University, Tokyo, Japan
Email: tkameda@mi.meijigakuin.ac.jp

Prof. Kazutoshi Sasahara (Postdoctoral advisor)
School of Environment and Society
Institute of Science Tokyo, Tokyo, Japan
Email: sasahara.k.6efa@m.isct.ac.jp

Prof. Hirokazu Shirado (Postdoctoral advisor)
Human-Computer Interaction Institute
Carnegie Mellon University, Pittsburgh, PA
Email: shirado@cmu.edu