

Tomohiro Nagashima

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EDUCATION

- 2017 – 2022
 (expected) **Ph.D. in Human-Computer Interaction**
 Carnegie Mellon University, Pittsburgh, PA
 Advisor: Vincent Aleven
- Dissertation: *Promoting Learners' Self-Regulated Choices with Visual Representations through Personalized Reflection*
 Committee: Vincent Aleven (Chair), Geoff Kaufman, Amy Ogan, Martha W. Alibali, & Timothy Nokes-Malach
- 2017 – 2020 **M.S. in Human-Computer Interaction**
 Carnegie Mellon University, Pittsburgh, PA
 Advisor: Vincent Aleven
- 2016 – 2017 **M.A. in Education (Learning, Design, and Technology)**
 Stanford Graduate School of Education, Stanford, CA
 Advisor: Candace Thille
- 2010 – 2014 **B.A. in Education**
 International Christian University, Tokyo, JAPAN
 Advisor: Insung Jung

FELLOWSHIPS & AWARDS

- 2021 **Presidential Fellowship**, Carnegie Mellon University School of Computer Science
- 2021 **Best Design Paper Nomination**, International Society of the Learning Sciences (ISLS2021) for C4
- 2020 **Fred Mulder Best Open Education Practice Award (\$1,300)**, Global OER Graduate Network (GOGN) for C7 & C8
- 2020 **Nova Southeastern Award for Outstanding Practice in Instructional Design (\$75)**, Association for Educational Communications and Technology (AECT) for C7 & C8
- 2019 **Doctoral Consortium Fellowship (\$1,000)** (Travel fellowship for LAK19), Society for Learning Analytics Research
- 2018 **Virtually Connecting Scholarship (\$500)** (Travel scholarship for OpenEd18), Virtually Connecting
- 2018 **Open Education Award of Excellence** (Category: Open Courses), Open Education Consortium
- 2018 **Open Education Award of Excellence Honorable Mention** (Category: Open Policy), Open Education Consortium
- 2018 **Creative Commons Summit 2018 Travel Scholarship (\$700)**, Creative Commons
- 2017 **Creative Commons Summit 2017 Travel Scholarship (\$700)**, Creative Commons
- 2016 **OER Research Fellowship (\$4,000)**, Open Education Group
- 2016 **Study Abroad Scholarship (\$30,000)**, Rotary International
- 2016 **Merit-based Tuition Fellowship (\$10,000)**, Stanford Graduate School of Education
- 2013 **Study Abroad Scholarship (\$90,000)**, Japan Business Federation
- 2011-12 **Dean's List**, International Christian University

GRANTS RECEIVED

- 2020 - 2023 **Japan Society for the Promotion of Science** (Grant-in-Aid for Scientific Research: B)
 Title: Developing data-informed OER improvement system
Co-PI with Katsusuke Shigeta, Toshiyuki Takeda, Daisuke Kaneko, and Hidefumi Yagi

Award Amount: JPY 15,990,000 (USD 145,327)

2015 – 2019

Japan Society for the Promotion of Science (Grant-in-Aid for Scientific Research: B)

Title: Leveraging learning analytics to improve teaching and learning with MOOC

Co-PI with Katsusuke Shigeta, Toshiyuki Takeda, Hideki Mori, Daisuke Kaneko, Yasuhiro Hayashi, and Hidefumi Yagi

Award Amount: JPY 13,260,000 (USD 120,518)

PEER-REVIEWED PUBLICATIONS (an asterisk (*) denotes a mentored student)

Journal Articles

- J1. Nagashima, T. & Hrach, S. (in press). Motivating factors among university faculty for adopting Open Educational Resources: Incentives matter. *Journal of Interactive Media in Education*.
- J2. Yang, K., Nagashima, T., Yao, J., Williams, J. J., Holstein, K., & Alevin, V. (2021). Can crowds customize instructional materials with minimal expert guidance?: Exploring teacher-guided crowdsourcing for improving hints in an AI-based tutor. *ACM Conference on Computer-Supported Collaborative Work and Social Computing (CSCW2021)*.¹
- J3. Shigeta, K., Yagi, H., Nagashima, T., Hamada, M., Miyazaki, T., Kobayashi, K., & Shima, M. (2015). Cooperative liberal arts education and flipped classroom implementation with MOOC. *Journal of Digital Practices* 6(2), 89-96. (in Japanese)
- J4. Nagashima, T. (2014). What makes open education thrive? Examination of factors contributing to the success of open education initiatives. *International Journal for Innovation and Quality in Learning* 2(3), 10-21.

Papers in Conference Proceedings

- C1. Nagashima, T., *Ling, E., *Zheng, B., Bartel, A. N., Silla, E. M., Vest, N.A., Anthony, L., Alibali, M. W., & Alevin, V. (under review). Never too much? Examining the effect of visual scaffolding on performance and learning in an Intelligent Tutoring System.
- C2. Nagashima, T., Yadav, G., & Alevin, V. (2021). A framework to guide technology-based educational studies in the evolving classroom environment. In T. De Laet T, R. Klemke, C. Alario-Hoyos, I. Hilliger I, & A. Ortega-Arranz. (Eds.), *Proceedings of the 16th European Conference on Technology Enhanced Learning (EC-TEL2021)* (pp. 207-220). [acceptance rate: 21%].
- C3. Nagashima, T., Bartel, A. N., *Tseng, S., Vest, N.A., Silla, E. M., Alibali, M. W., & Alevin, V. (2021). Scaffolded self-explanation with visual representations promotes efficient learning in early algebra. In T. Fitch, C. Lamm, H. Leder, & K. Teßmar-Raible (Eds.), *Proceedings of the 43rd Annual Meeting of the Cognitive Science Society* (pp. 1858-1864). Cognitive Science Society.
- C4. Nagashima, T., Bartel, A. N., *Yadav, G., *Tseng, S., Vest, N. A., Silla, E. M., Alibali, M. W., & Alevin, V. (2021). Using anticipatory diagrammatic self-explanation to support learning and performance in early algebra. In E. de Vries, J. Ahn, & Y. Hod (Eds.), *15th International Conference of the Learning Sciences – ICLS 2021* (pp. 474–481). International Society of the Learning Sciences [acceptance rate: 33%]. **Best Design Paper Nominee.**
- C5. Nagashima, T., *Yadav, G., & Alevin, V. (2021). Rethinking technology-based educational studies in the evolving classroom environment: An interview study with US teachers. In E. de Vries, J. Ahn, & Y. Hod (Eds.), *15th International Conference of the Learning Sciences – ICLS 2021* (pp. 933–934). International Society of the Learning Sciences.
- C6. Bartel, A. N., Silla, E. M., Vest, N.A., Nagashima, T., Alevin, V., & Alibali, M. W. (2021). Reasoning

¹ CSCW is one of the premier venues for Human-Computer Interaction researchers. CSCW employs a rigorous peer-review process that is commensurate with that of major journals.

- about equations with tape diagrams: insights from math teachers and college students. In E. de Vries, J. Ahn, & Y. Hod (Eds.), *15th International Conference of the Learning Sciences – ICLS 2021* (pp. 685–688). International Society of the Learning Sciences [acceptance rate: 30%].
- C7. **Nagashima, T.**, Bartel, A. N., Silla, E. M., Vest, N. A., Alibali, M. W., & Alevan, V. (2020). Enhancing conceptual knowledge in early algebra through scaffolding diagrammatic self-explanation. In M. Gresalfi & I. S. Horn (Eds.), *14th International Conference of the Learning Sciences* (pp. 35-43). Nashville, TN: International Society of the Learning Sciences. [acceptance rate: 38%].
- C8. **Nagashima, T.**, *Yang, K., Bartel, A. N., Silla, E. M., Vest, N. A., Alibali, M. W., & Alevan, V. (2020). Pedagogical Affordance Analysis: Leveraging teachers' pedagogical knowledge for eliciting pedagogical affordances and constraints of instructional tools. In M. Gresalfi & I. S. Horn (Eds.), *14th International Conference of the Learning Sciences* (pp. 1561-1564). Nashville, TN: International Society of the Learning Sciences.
- C9. Shigeta, K., Takeda, T., Mori, H., Yagi, H., **Nagashima, T.**, Kaneko, D., & Hayashi, Y. (2019). A practice of group-based learning support in online learning based on learner motivation and goal setting. *Workshop paper, Information Processing Society of Japan* (in Japanese).
- C10. Takeda, T., Hayashi, Y., Shigeta, K., Mori, H., Kaneko, D., Yagi, H., & **Nagashima, T.** (2018). Visualizing relationships among content topics and learning activities of online courses. In *Proceedings of EdMedia: World Conference on Educational Media and Technology*. Amsterdam, Netherlands: Association for the Advancement of Computing in Education (AACE).
- C11. Shigeta, K., Yagi, H., Takeda, T., Mori, H., Hayashi, Y., Kaneko, D., & **Nagashima, T.** (2017). A study on improving learning materials utilizing comments on MOOC discussion boards. In *Proceedings of the Annual Conference for Japan Society for Educational Technology, Shimane*. (in Japanese)
- C12. Hayashi, Y., Takeda, T., **Nagashima, T.**, Yagi, H., Mori, H., Kaneko, D., & Shigeta, K. (2016). Development of the dashboard system for teachers to perform effective indication of the learning data analysis. In *Proceedings of the 5th International Conference on Knowledge Creation and Intelligent Computing*. Manado, Indonesia.
- C13. **Nagashima, T.**, Yagi, H., & Shigeta, K. (2015). The value of delivering MOOC as OER. In *Proceedings of the Annual Conference for Japan Association for Educational Media, Tokyo*. (in Japanese)
- C14. Yagi, H. **Nagashima, T.**, & Shigeta, K. (2015). Improvement model of lectures and teaching materials developed by OER and MOOC. In *Proceedings of the Annual Conference for Japan Association for Educational Media, Tokyo*. (in Japanese)
- C15. Yagi, H., **Nagashima, T.** Hamada, M., Shima, M., Kobayashi, K., & Shigeta K. (2015). Flipped classroom using interactive distance learning system: An experimental class in liberal arts education among national universities in Hokkaido. In *Proceedings of the Annual Conference for Japan Society for Educational Technology, Tokyo*. (in Japanese)
- C16. Yagi, H., **Nagashima, T.**, Hamada, M., Shima, M., Kobayashi, K., & Shigeta K. (2015). Development of educational videos for liberal arts education among national universities in Hokkaido: How instructional designers and video content specialists can develop a collaborative workflow in a small team. In *Proceedings of the Annual Conference for Japan Society for Information and Systems in Education, Tokyo*. (in Japanese)
- C17. **Nagashima, T.** (2013). Open educational resources in higher education: A global perspective. In *Proceedings of the International Conference for Media in Education, Aichi*.

Conference Abstracts

- A1. Bartel, A. N., Silla, E. M., Vest, N. A., **Nagashima, T.**, Alevan, V., & Alibali, M. W. (2020). Reasoning about equations with tape diagrams: Do visual features matter? In *Proceedings of the 42nd Annual Meeting of the Cognitive Science Society*, Toronto, Canada.

Doctoral Consortia

- D1. **Nagashima, T.** (2021). Towards fostering strategic choices in using diagrams in early algebra. In *Proceedings of the 12th International Conference on the Theory and Application of Diagrams (Diagrams 2021)*.
- D2. **Nagashima, T.** (2019). Towards enhancing conceptual knowledge in algebra through diagrammatic self-explanation. In *Companion Proceedings of the 9th International Learning Analytics and Knowledge Conference (LAK19)*. Tempe, AZ.
- D3. **Nagashima, T.** (2018). Contextualized instruction in data science and its effect on transfer of learning. In *Proceedings of the 13th European Conference on Technology Enhanced Learning (EC-TEL)*. Leeds, UK.

Manuscripts in Preparation

- M1. **Nagashima, T.**, Bartel, A. N., Silla, E. M., Vest, N. A., *Yang, K., Alibali, M. W., & Alevan, V. (in preparation). Redesigning instructional tools through Pedagogical Affordance Analysis. Targeted: *Journal of the Learning Sciences*.

OTHER PUBLICATIONS

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- O1. Farrow, R., Iniesto, F., Weller, M., Pitt, R., Algiers, A., Bass, M., Bozkurt, A., Cox, G., Czerwonogóra, A., Elias, T., Essmiller, K., Funk, J., Lambert, S., Mittelmeier, J., **Nagashima, T.**, Rabin, E., Rets, I., Spica, E., Vladimirschi, V. & Witthaus, G (2021). The GO-GN guide to conceptual frameworks. *Open Education Research Hub. The Open University, UK*. CC-BY 4.0.
- O2. **Nagashima, T.** (2018). Recent trends in open textbook adoption and research. *SIG Report. Game Learning and Open Education Special Interest Group*. Japan Society for Educational Technology. (in Japanese)
- O3. Wiens, K., Tarkowski, A., Watanabe, T., **Nagashima, T.**, Allen, N., Appleyard, B., Botero, C., Juliana, M., Mora, L., Smith, J., Salem, N., & Browne, D. (2016). Global Open Policy Report 2016. *Open Policy Network*.
- O4. Shigeta, K. & **Nagashima, T.** (2016). Envisioning the future of open education: a perspective from the non-English-speaking world. *FutuOER*.
- O5. **Nagashima, T.** (2016). OER research initiatives around the world. *SIG Report. Game Learning and Open Education Special Interest Group*. Japan Society for Educational Technology. (in Japanese)
- O6. **Nagashima, T.** (2015). How should we approach openness in MOOC? *SIG Report. Game Learning and Open Education Special Interest Group*. Japan Society for Educational Technology. (in Japanese)
- O7. Watanabe, T., Shigeta, K., **Nagashima, T.**, & Tanaka, K. (2014). Implication of EU's open education policy on educational system in Japan: Global competitiveness, employment, and digital divide. *Report by Innovation Nippon*. (in Japanese)

PEER-REVIEWED CONFERENCE PRESENTATIONS

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- T1. **Nagashima, T.**, *Yadav, G., & Alevan, V. (2021). A framework for conducting remote classroom research. Presented at the CIRCLS'21 Convening. Center for Integrative Research in Computing and Learning Sciences.
- T2. Silla, E. M., Vest, N. A., **Nagashima, T.**, Bartel, A. N., Anthony, L. E., Alevan, V., & Alibali, M. W. (2021). Efficacy of tape diagrams: Evidence from an Intelligent Tutoring System. Lightning talk presented at the Annual Meeting of the Mathematical Cognition and Learning Society.
- T3. Silla, E. M., Tommasi, T., Vest, N. A., Bartel, A. N., Buehler, Z., Manhart, H., Petersdorff, M.,

- Nagashima, T.**, Alevan, V. & Alibali, M. W. (2021). Fostering conceptual understanding of equation solving via an Intelligent Tutoring System. Wisconsin Center for Education Research.
- T4. Vest, N. A., Silla, E. M., Bartel, A. N., **Nagashima, T.**, Alevan, V. & Alibali, M. W. (2021). Learning from worked examples: Conceptually rich explanations predict conceptual gains. The Society for Research in Child Development Biennial Meeting.
- T5. Bartel, A. N., Silla, E. M., Vest, N. A., **Nagashima, T.**, Tang, Y., Alevan, V. & Alibali, M. W. (2021). Do tape diagrams promote a focus on conceptual principles? Evidence from equation solving with an Intelligent Tutoring System. In Wong, T. (Chair), *Principle knowledge in mathematics: Its development, cognitive predictors, and potential interventions*, Symposium at the Annual Meeting of the Mathematical Cognition and Learning Society, Dublin, Ireland.
- T6. **Nagashima, T.**, Bartel, A., Silla, E., Vest, N., Alibali, M., & Alevan, V. (2020). Collaborative open educational practices: sharing evidence-based Open Educational Resources to facilitate meaningful adaptation. Open Education Conference.
- T7. **Nagashima, T.**, Xiong, Y., Bodily, R., & Stamper, J. (2018). Student engagement and learning in an OER-based course: a longitudinal study. Open Education Conference, NY.
- T8. **Nagashima, T.** & Stamper, J. (2018). Contextualized instruction with OER: Examining the Remix Hypothesis. Open Education Conference, NY.
- T9. Cannanure, V., **Nagashima, T.**, Gordon, G., & Brown, T. (2018). QnA: a low-cost system for developing interactive OER in computer science. Open Education Conference, NY
- T10. Mori, H., **Nagashima, T.**, Takeda, T., Hayashi, Y., Kaneko, D., Kojima, K., Yagi, H., & Shigeta, K. (2018). Persistence decision model for learning in MOOC. Study Workshop by Japan Society of Educational Technology, Tokyo. (in Japanese)
- T11. Hrach, S., Gallant, J., & **Nagashima, T.** (2017). Motivating factors among faculty for adopting OER. Open Education Conference, Anaheim.
- T12. Kaneko, D., Kojima, K., Shigeta, K., Takeda, T., Mori, H., Hayashi, Y., Yagi, H., & **Nagashima, T.** (2017). Evaluation criteria for pedagogical practices in MOOC. Study Workshop by Japan Society for Information and Systems in Education. (in Japanese)
- T13. Kaneko, D., Kojima, K., Shigeta, K., Takeda, T., Mori, H., Hayashi, Y., Yagi H., & **Nagashima, T.** (2017). Applicable evaluation criteria for MOOC. Study Workshop by Japanese Society for Information and Systems in Education. (in Japanese)
- T14. Shigeta, K., Fujita, Y., Yagi, H., **Nagashima, T.**, Hamada, M., Sata, M., Matsumoto, T., Tanaka, H., Kobayashi, K., & Shima, M. (2016). Open education strategy at universities in Hokkaido region utilizing OER. Open Education Global 2016, Kraków.
- T15. Takeda, T., Hayashi, Y., Shigeta, K., Mori, H., Kaneko, D., Yagi, H., & **Nagashima, T.** (2016). Dashboard development for improving instruction on MOOC. Study Workshop by Japan Society of Educational Technology, Chiba. (in Japanese)
- T16. Shigeta, K., Matsukawa, H., Matsuda, T., Watanabe, Y., Kato, H., Yagi, H., & **Nagashima, T.** (2016). Developing classifying methods of course types through the analysis of syllabi. Study Workshop by Japan Society for Educational Technology, Kagawa. (in Japanese)
- T17. **Nagashima, T.**, Shigeta, K., & Bier, N. (2015). Tackling a lack of local OER: How international OER adoption enhanced the quality of learning on campus. Open Education Conference, Vancouver.
- T18. **Nagashima, T.** (2015). What do we really mean by “open”? SIG Session, Annual Conference for Japan Society for Educational Technology, Tokyo. (in Japanese)
- T19. **Nagashima, T.** (2015). Running open MOOC: Experience from Hokkaido University. Academic

Exchange for Information Environment and Strategy Seminar, Sapporo. (in Japanese)

INVITED TALKS

- IT1. **Nagashima, T.** (2021). Learning analytics and gamification. Presented at the Symposium on Digital Transformation in Higher Education. National Institute of Informatics. Tokyo, Japan. (in Japanese).
- IT2. **Nagashima, T.** (2021). Open Educational Resources and the COVID-19 pandemic: Opportunities and challenges. Hokkaido University, Sapporo (in Japanese).
- IT3. **Nagashima, T.** (2021). Co-design in open education practices. International Christian University, Tokyo.
- IT4. **Nagashima, T.** (2020). Pedagogical Affordance Analysis. AECT Annual Convention (as part of AECT awardees' presentations).
- IT5. **Nagashima, T.** (2020). Connecting education research with classroom practices through co-design. Keio University, Tokyo (in Japanese).
- IT6. **Nagashima, T.** (2020). Designing instruction by leveraging pedagogical affordances and constraints. International Christian University, Tokyo.
- IT7. **Nagashima, T.** (2019). Recent trends in learning analytics research. Hokkaido University, Sapporo. (in Japanese).
- IT8. **Nagashima, T.** (2016). Effective use of ICT in higher education: lessons learned at Hokkaido University. Academic Link Seminar. Chiba University, Chiba. (in Japanese)
- IT9. Allen, N., Beckett, M., Lesko, I., Wiens, K., Jacob, M., & **Nagashima, T.** (2015). Open Education: Policy and Practice [Invited panel]. OpenCon 2015, Brussels.

RESEARCH & PROFESSIONAL EXPERIENCES

2021	Institute for Policy Research , Northwestern University, Evanston, IL <i>Participant, Summer Research Training Institute on Improving Evaluations of R&D in STEM Education</i>
2019 - present	Cabinet Office, The Japanese Government , Tokyo, JAPAN <i>Data Science Consultant</i>
2018 - present	Human-Computer Interaction Institute , Carnegie Mellon University, Pittsburgh, PA <i>Graduate Researcher</i> with Vincent Alevan and Martha Alibali (University of Wisconsin-Madison)
2017 - 2019	Program in Interdisciplinary Education Research , Carnegie Mellon University, Pittsburgh, PA <i>Associate</i>
2017 - 2018	Human-Computer Interaction Institute , Carnegie Mellon University, Pittsburgh, PA <i>Graduate Researcher</i> with John Stamper
2018	LearnLab Summer School , Carnegie Mellon University, Pittsburgh, PA <i>Participant, Educational Data Mining track</i>
2016 - 2018	Open Education Group , Provo, UT <i>OER Research Fellow</i>
2015 - present	Center for Open Education , Hokkaido University, Sapporo, JAPAN <i>Research Collaborator</i>
2017	Open Learning Initiative , Stanford University, Stanford, CA

Learning Engineer Intern with Candace Thille

- 2015 - 2016 **Fujitsu/Hokkaido University**, Sapporo, Japan
Research Fellow
- 2015 – 2016 **Open Policy Network**, Creative Commons, Mountain View, CA
Researcher
- 2014 - 2016 **Center for Open Education**, Hokkaido University, Sapporo, JAPAN
Instructional Designer / Project Manager
- 2014 - 2015 **Innovation Nippon**, Tokyo, JAPAN
Research Assistant with Tomoaki Watanabe
- 2013 - 2014 **International Christian University**, Tokyo, JAPAN
Research Assistant with Masako Miyahara & Atsuko Watanabe
- 2013 - 2014 **International Christian University**, Tokyo, JAPAN
Research Assistant with Insung Jung

TEACHING & MENTORING EXPERIENCES

Teaching

- 2021 **Carnegie Mellon University**, Pittsburgh, PA
Teaching Assistant with Raelin Musuraca and Motahhare Eslami
Course Title: User-Centered Research and Evaluation (99 graduate and undergraduate students)
- Lecturing in 80-min lab sessions every week (15 weeks, 24 students), helping with grading assignments, and students' research projects
- 2018 **Carnegie Mellon University**, Pittsburgh, PA
Teaching Assistant with John Stamper and Adam Perer
Course Title: Interactive Data Science (70 graduate and undergraduate students)
- Taught four 70-min lectures on experimental design and data analysis, graded assignments, and helped students with data science projects
- 2014, 2018 **Open Education Lab**, Sapporo, JAPAN
Teaching Assistant with Katsusuke Shigeta, Toshiyuki Takeda, and Hideki Mori
Course Title: Open Education and the Future of Learning (offered on Japanese MOOC; approx. 8,000 participants)
- Designed assignments and quizzes, managed online discussions, helped learners with assignments
- 2015 **Hokkaido University**, Sapporo, JAPAN
Teaching Assistant with lead instructors Tamotsu Kozaki and Naoko Watanabe
Course Title: Effects of Radiation: An Introduction to Radiation and Radioactivity (offered on edX; approx. 5,000 participants)
- Co-developed lecture materials and assignments, facilitated discussions and helped with technical and content-related issues
- 2014 - 2016 **Hokkaido University**, Sapporo, JAPAN
Instructional Designer & Project Manager
- Co-designed with university faculty over 200 educational materials (modules) in various domains, which were shared as Open Educational Resources (OER)
- 2014 - 2016 **Hokkaido University**, Sapporo, JAPAN
Teaching Assistant with Katsusuke Shigeta
Course Title: Introduction to Information Science (30 undergraduate students)
- Co-developed course materials (lectures and assignments), taught two 60-min lectures,

facilitated classroom discussions, graded assignments

Student Mentoring Experiences

Student mentoring includes: regular communications to support their work, providing feedback on design and research, collaboratively writing papers and conducting user research. In all mentoring activities, I ensure that students learn valuable knowledge and skills in research and/or design (e.g., through setting goals and offering opportunities for students to take a lead and explore new aspects of the assigned task).

2021-present	Marcus Artigue (Undergraduate student at Hope College) <i>REU² Intern for “Promoting Conceptual and Procedural Knowledge with ITSs”</i>
2021-present	Elizabeth Ling (Undergraduate student at Harvard) <i>Research Intern for “Promoting Conceptual and Procedural Knowledge with ITSs”</i>
2021-present	Michelle Ma (Undergraduate student at UCLA) <i>REU Intern for “Promoting Conceptual and Procedural Knowledge with ITSs”</i>
2021-present	Bin Zheng (Undergraduate student at CMU) <i>Research Intern for “Promoting Conceptual and Procedural Knowledge with ITSs”</i>
2020-present	Jeff Chen (Undergraduate student at CMU) <i>REU Intern & Research Assistant for “Gamification for ITSs”</i>
2020-present	Xiaoying Meng (Undergraduate student at CMU, currently a master’s student at CMU) <i>Research Assistant for “Gamification for ITSs”</i>
2020-present	Stephanie Tseng (Undergraduate student at CMU) <i>Research Assistant for “Promoting Conceptual and Procedural Knowledge with ITSs”</i>
2019-present	John Britti (Undergraduate student from Georgia Tech, now Master’s student at GT) <i>REU Intern & Research Assistant for “Gamification for ITSs”</i>
2019-present	Xiran Wang (Undergraduate student at CMU) <i>Research Assistant for “Gamification for ITSs”</i>
2020 - 2021	Sihan Wu (Undergraduate student at CMU) <i>Independent Study for “Gamification for ITSs”</i>
2020-2021	Xinying Hou (Graduate student at CMU, currently a PhD student at the UMich) <i>Independent Study and Extern Research Assistant for “Gamification for ITSs”</i>
2020	Ruitao Li (Undergraduate student at CMU) <i>Research Assistant for “Promoting Conceptual and Procedural Knowledge with ITSs”</i>
2020	Jordan Love (Undergraduate student at University of Kansas) <i>REU Intern for “Gamification for ITSs”</i>
2020	Gautam Yadav (Graduate student at CMU, currently Learning Engineer at CMU HCII) <i>Research Collaborator for “Promoting Conceptual and Procedural Knowledge with ITSs”</i>
2020	Junhui Yao (Graduate student at CMU, now Software Engineer at Huawei) <i>Research Assistant for “Promoting Conceptual and Procedural Knowledge with ITSs”</i>
2020	Alan Zhao (Undergraduate student at Pomona College) <i>REU Intern for “Promoting Conceptual and Procedural Knowledge with ITSs”</i>

² The REU (Research Experiences for Undergraduates) program is a program by National Science Foundation that provides an opportunity for undergraduate students to work on a research project for the duration of 10 weeks.

- 2019 **Evan Fang** (Undergraduate student at CMU)
Research Assistant for “Promoting Conceptual and Procedural Knowledge with ITSs”
- 2019 **Emilie Guermeur** (Undergraduate student at CMU)
Independent Study for “Promoting Conceptual and Procedural Knowledge with ITSs”
- 2019 **Trula Rael** (Undergraduate student at Harvard University)
REU Intern for “Promoting Conceptual and Procedural Knowledge with ITSs”
- 2019 **Kexin Yang** (Graduate student at CMU, currently a PhD student at CMU HCII)
Research Assistant for “Promoting Conceptual and Procedural Knowledge with ITSs”

Other Mentoring Experiences

- 2020, 2021 **LearnLab Summer School**, Carnegie Mellon University, Pittsburgh, PA
Mentor, Intelligent Tutoring System track
- Mentored participant groups on their design and implementation of an intelligent tutoring system

PRACTITIONER RESOURCES & OPEN EDUCATIONAL RESOURCES (OER)

- 2020 **Tape Diagram Template for Equations**
Tape diagram representation template made in Google slides, provided under CC-BY-NC
<https://tinyurl.com/tapetemplate>
- 2020 **Tape Diagram Generation Tool**
Automatic tape diagram generation tool available on MathTutor
<https://preview.ctat.cs.cmu.edu/home>

ACADEMIC SERVICE

- 2021 - present **Creative Commons Copyright Platform**
Member, Artificial Intelligence, Copyright, & Open Sharing Working Group
- 2021 - present **Creative Commons Copyright Platform**
Member, Beyond Copyright: The Ethics of Open Sharing Working Group
- 2018 - present **Japan Society for Educational Technology**, Tokyo, JAPAN
Organizing Member, Game Learning and Open Education Special Interest Group (JSET SIG-05)
- 2017 - present **Global OER Graduate Network**, The Open University, Milton Keynes, UK
Ph.D. Student Member
- 2016 - 08/2017 **The Rotary Club of Los Altos**, Los Altos, CA
Honorary Member
- 2014 - present **OER World Map**, Köln, GERMANY
Country Champion of Japan
- 2013 **International Christian University**, Tokyo, JAPAN
Organizer, Senior Thesis Poster Session Program
- 2012 - present **Creative Commons Japan (CommonSphere)**, Tokyo, JAPAN
Member (Education)

Editorial Board

2021 - present CIRCLS/ISLS Rapid Community Reports

Journal and Conference Reviewing

2021 - present Journal of Interactive Media in Education (JIME)
2021 - present ACM Interaction Design and Children Conference (IDC)
2020 - present Annual Meeting of the International Society of the Learning Sciences (ISLS)
2019 - present Mathematical Cognition and Learning Society Conference (MCLS)
2019 - present Open Education Conference (OpenEd)
2018 - present ACM Conference on Human Factors in Computing Systems (CHI)
2018 - present European Conference on Technology Enhanced Learning (EC-TEL)
2017 - present International Learning Analytics and Knowledge Conference (LAK)
2016 - present International Review of Research in Open and Distributed Learning (IRRODL)
2017 - 2020 International Conference of the Learning Sciences (ICLS)

Conference Organizing

2020 Session Chair, Annual Meeting of the International Society of the Learning Sciences (ISLS)

MEMBERSHIP

2019 - present Cognitive Science Society
2017 - present International Society of the Learning Sciences
2014 - present Japanese Society for Educational Technology