Ha Nguyen

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SUMMARY

My research integrates learning sciences, learning analytics, and human-centered design to promote deeper learning in Science, Technology, Engineering, and Math (STEM) contexts for diverse learners. To this end, I examine how to apply learning analytics methods to understand learning processes in digital settings, and how to design technologies to foster productive discussion in human-human and human-AI collaboration.

EDUCATION

| 2022 | University of California-Irvine, Ph.D., Education, |
|------|--|
| | Concentration: STEM Teaching & Learning. |
| | Dissertation Study: Designing Conversational Agents to Promote Collaboration and |
| | Systems Thinking in High School Science Discussion |
| 2020 | University of California-Irvine, M.A., Education. |
| 2018 | Duke University, B.A., Public Policy, Japanese, Minor in Education. |

PROFESSIONAL APPOINTMENTS

2022-present Assistant Professor, Instructional Technology & Learning Sciences,

Utah State University

PUBLICATIONS

(* indicates publications with graduate students, and ** indicates undergraduate students that I mentored)

Peer-reviewed Journals

(All are Q1 – top 25% in respective fields of Education, Computer Science, and Information Sciences)

- Nguyen, H. & Parameswaran, P.* (2023). Meaning making and relatedness: Exploring critical data literacies on social media. *Information & Learning Sciences*, 124 (5/6), 149-167. https://doi.org/10.1108/ILS-02-2023-0016.
 - **Nguyen, H.**, Lopez, J., Homer, B., Ali, A., & Ahn, J. (2023). Reminders, reflections, and relationships: Insights from the design of a chatbot for college advising. *Information & Learning Sciences*, 124(3/4), 128-146. https://doi.org/10.1108/ILS-10-2022-0116
 - **Nguyen, H.** (2023). Role design considerations of conversational agents to facilitate discussion and systems thinking. *Computers & Education*, 192. https://doi.org/10.1016/j.compedu.2022.104661
 - Fischer, C., Witherspoon, E., **Nguyen, H.**, Feng, Y., Fiorini, S., Vincent-Ruz, P., Mead, C., Rodriguez, W., Matz, B., & Schunn, C. (2023). Advanced Placement course credit and undergraduate student success in STEM gateway courses. *Journal of Research in Science Teaching*. https://doi.org/10.1002/tea.21799
- Nguyen, H. (2022). Let's Teach Kibot: Discovering discussion patterns between student groups and two conversational agent designs. *British Journal of Educational Technology*, 53(6), 1864-1884. http://doi.org/10.1111/bjet.13219

- Jacob, S., Montoya., J., **Nguyen, H.**, Richardson, D., & Warschauer, M. (2022). Examining the what, why, and how of multilingual student identity development in computer science. *ACM Transactions on Computing Education*, 22(3), 1-33. https://dl.acm.org/doi/abs/10.1145/3500918
- Fischer, C., **Nguyen, H.**, Estrella, G., & Collins, P. (2022). Examining benefits of lectures and inquiry-based laboratories for language minority students in science gateway courses. *Plos One*. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0267188
- Nguyen, H., Lim, K.Y., Fischer, C., Wu, L., Washington, G., & Warschauer, M. (2021). "We're looking good": Social exchange and regulation temporality in collaborative design. *Learning & Instruction*, 74. https://doi.org/10.1016/j.learninstruc.2021.101443
 - Ahn, J., **Nguyen, H.**, & Campos, F. From visible to understandable: Designing for teacher agency in education data visualizations. (2021). *Contemporary Issues in Technology & Teacher Education (CITE)*. https://citejournal.org/volume-21/issue-1-21/general/from-visible-to-understandable-designing-for-teacheragency-in-education-data-visualizations/
 - Campos, F., Ahn, J., Digiacomo, D., **Nguyen, H.**, & Hays, M. Making sense of sensemaking: Understanding how K-12 teachers and coaches react to visual analytics. (2021). *Journal of Learning Analytics*, 8(3). https://www.learning-analytics.info/index.php/JLA/article/view/7113
 - Santagata, R., König, J., Scheiner, T., **Nguyen, H.**, Adleff, A.-K., Yang, X., & Kaiser, G. Mathematics teacher learning to notice: A systematic review of studies of video-supported teacher education. (2021). *ZDM*, *International Journal of Mathematics Education*, *53*, 119-134. https://doi.org/10.1007/s11858-020-01216-z
- Nguyen, H., & Santagata, R. Impact of computer modeling on learning and teaching systems thinking. (2021). *Journal of Research in Science Teaching*, 58(5), 661-688. https://onlinelibrary.wiley.com/doi/10.1002/tea.21674
 - **Nguyen, H.**, Wu, L., Fischer, C., Washington, G., & Warschauer, M. (2020). Increasing success in college: Examining the impact of a project-based introductory engineering course. *Journal of Engineering Education*, 109(3), 384-401. https://doi.org/10.1002/jee.20319
 - **Nguyen, H.** & Jenkins, J. (2020). In or out of sync: Federal funding and research in early childhood. *AERA Open*, 6(4). https://doi.org/10.1177/2332858420979568
 - Zhou, N., **Nguyen, H.**, Fischer, C., Richardson, D., & Warschauer, M. (2020) Hybrid professional development program to promote high school teachers' self-efficacy in computer science classroom. *ACM Transactions on Computing Education*, 20(3), 1-18. https://dl.acm.org/doi/abs/10.1145/3410631

2018

Jacob, S., **Nguyen, H.**, Tofel-Grehl, C., Richardson, D., & Warschauer, M. (2018). Teaching computational thinking to English learners. *NYS TESOL Journal*, 5(2), 12-24.

ACM Conference Proceedings (Full & Short Papers)

(Equivalent to peer-reviewed journals in my fields of learning analytics and human-centered interaction)

- 2023
- [Full] Nguyen, H. (2023). TikTok as learning analytics data: Framing climate change and data practices. In *LAK23: 13th International Conference on Learning Analytics and Knowledge* (pp. 33-43). https://doi.org/10.1145/3576050.3576055
- [Short] Nguyen, H., & Diederich, M.* (2023). How civil are comments on TikTok's educational videos? Insights for learning at scale. In *Proceedings of the Tenth ACM Conference on Learning @ Scale (L@S '23)*. https://doi.org/10.1145/3573051.3596174
- 2022
- [Full] Nguyen, H. & Young, W. (2022). Knowledge construction and uncertainty in real world argumentation: A text analysis approach. In *LAK22: The 12th International Conference on Learning Analytics and Knowledge* (pp. 34-44). https://doi.org/10.1145/3506860.3506864
- [Short] Nguyen, H. (2022). Examining teenagers' perceptions of conversational agents in learning settings. In *IDC'22: Interaction Design & Children* (pp. 374-381). https://doi.org/10.1145/3501712.3529740.
- 2021
- [Full] Ahn, J., Nguyen, H., Campos, F., & Young, W. (2021). Transforming everyday information into practical analytics with crowdsourced assessment tasks. In *LAK21: The 11th International Conference on Learning Analytics and Knowledge* (pp. 66-76). https://doi.org/10.1145/3448139.3448146
- [Full] Ahn, J., Campos, F., Nguyen, H., Hays, M., & Morrison, J. (2021). Co-designing for privacy, transparency, and trust in K-12 learning analytics. In *LAK21: The 11th International Conference on Learning Analytics and Knowledge* (pp. 55-65). https://doi.org/10.1145/3448139.3448145
- 2020
- [Short] Nguyen, H., Ahn, J., Young, W., & Campos, F. (2020). Where's the learning in education crowdsourcing? In *Proceedings of the Seventh (2020) Annual ACM Conference on Learning@ Scale* (pp. 305-308). https://doi.org/10.1145/3386527.3406734

ACM Conference (Posters & Extended Abstracts)

- [Poster] Matthews, J.*, **Nguyen**, **H.**, & Swanson, H., (2023, March). Uncovering the features of discourse that increase interactions. In *LAK23: The 13th International Conference on Learning Analytics and Knowledge*.
- 2021 [Poster] Rosenberg, J., & Nguyen, H. (2021, April). How K-12 school districts communicated during the COVID-19 pandemic: A study using Facebook data. In LAK21: 11th International Conference on Learning Analytics and Knowledge.

Peer-reviewed Conference Proceedings

- 2023 [Short] Nguyen, H. & Parameswaran, P.* Get loud on TikTok: Climate action & critical data practices. (2023, June). In 3rd Annual Meeting of the International Society of the Learning Sciences. International Society of the Learning Sciences.
 - [Short] Jones, B.*, Swanson, H., & Nguyen, H. Signals conveying teachers' readiness for change in the Next Generation Science professional development. (2023, June). In 3rd Annual Meeting of the International Society of the Learning Sciences. International Society of the Learning Sciences.
 - [Poster] Parameswaran, P.* & **Nguyen**, **H.** Angry but hopeful: Emotions about climate change on TikTok. (2023, June). In 3rd Annual Meeting of the International Society of the Learning Sciences. International Society of the Learning Sciences.
 - [Short] Nguyen, H. (2022, June). Learners' reactions to chatbot communication breakdowns: Insights into fostering learning. In 2nd Annual Meeting of the International Society of the Learning Sciences (pp. 291-295). International Society of the Learning Sciences.
- 2021 [Full] Nguyen, H. (2021, November). Exploring group discussion with conversational agents using epistemic network analysis. In *International Conference on Quantitative Ethnography* (pp. 378-394). Springer, Cham. https://doi.org/10.1007/978-3-030-93859-8_25

2022

- [Full] Nguyen, H., Ahn, J., Belgrave, A., Lee, J., Cawelti, L., Kim, H. E., ... & Villavicencio, A. (2021, February). Establishing trustworthiness through algorithmic approaches to qualitative research. In *International Conference on Quantitative Ethnography* (pp. 47-61). Springer, Cham. https://doi.org/10.1007/978-3-030-67788-6 4
- 2020 [Full] Nguyen, H., Wu, L., Washington, G., Lim, K.Y., & Fischer, C. (2020, June). Collaboration patterns and design practices in first-year project-based engineering. In *Proceedings of the 2020 American Society for Engineering Education Annual Conference & Exposition*.
 - [Short] Nguyen, H., Lim, K.Y., Wu, L. Fischer, C., & Warschauer, M. (2020, June). "I thought we said": Perceived peer support, discourse cohesion, and regulation in engineering design. In Gresalfi, M. and Horn, I. S. (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020, Volume 1 (pp. 521-524)*. Nashville, Tennessee: International Society of the Learning Sciences.
 - [Short] Nguyen, H., Garcia, L., Jacob, S., Richardson, D., & Warschauer, M. (2020, June). Reflection as formative assessment of computational thinking in elementary grades. In Gresalfi, M. and Horn, I. S. (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020, Volume 1 (pp. 525-528)*. Nashville, Tennessee: International Society of the Learning Sciences.
 - [Full] Nguyen, H., Garcia, L., Jacob, S., Richardson, D., & Warschauer, M. (2020, March). Elementary teachers' use of video reflections to reinforce computer science language and concepts. In 2020 Research on Equity and Sustained

Participation in Engineering, Computing, and Technology (RESPECT). IEEE Computer Society. https://doi.org/10.1109/RESPECT49803.2020.9272438.

[Full] Jacob, S., Nguyen, H., Garcia, L., Richardson, D., & Warschauer, M. (2020, March). Teaching computational thinking to multilingual students through inquiry-based learning. In 2020 Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT). IEEE Computer Society. https://doi.org/10.1109/RESPECT49803.2020.9272487.

Book Chapters

2021

- **Nguyen, H.**, Campos, F., & Ahn, J. (2021). Designing for generative uncertainty in learning dashboards. In Ifenthaler, D., & Muhittin, S. (Eds), *Visualizations and dashboards for learning analytics* (pp. 457-475). Springer, Cham.
- **Nguyen, H.**, Campos, F., & Ahn, J. (2021). Expanding the design space of data and action in education: What co-designing with educators reveal about current possibilities and limitations. In Bowers, A. (Ed), *Data visualization, dashboards, and evidence use in schools: Data collaborative workshop perspectives of educators, researchers, and data scientists*. Teachers College, Columbia University. New York, NY. https://doi.org/10.7916/d8-jj2g-e225

CONFERENCE PRESENTATIONS

2023

- **Nguyen, H.** (2023, April). Promoting discussion and systems thinking with different role designs of a conversational agent. Paper presented at *AERA Annual Meeting 2023*. Chicago, IL.
- **Nguyen, H.** (2023, April). Exploring natural language models' responses to intersectional identities in climate change education. Poster presented at *AERA Annual Meeting 2023*. Chicago, IL.

2022

Nguyen, H. (2022, April). "Looks like robots, sounds like humans": Surveying students' conceptualizations of learning agents. Paper presented at *AERA Annual Meeting 2022*. San Diego, CA.

2021

- **Nguyen, H.**, Lim, K.Y., Fischer, C., & Wu, L. (2021, June). Using relational event modeling to capture shared regulation interactions in collaborative learning. Poster presented at *The 1st Annual Meeting of the International Society of the Learning Sciences (Online)*. International Society of the Learning Sciences.
- **Nguyen, H.**, Ludovise, S., Wang, J.**, Huse, J.**, & Santagata, R. (2021, April). Modeling tools and systems thinking patterns in middle school. Paper presented at *AERA Annual Meeting 2021*.
- **Nguyen, H.**, Ahn, J., Belgrave, A., Lee, J., Cawelti, L., Kim, H.E., Prado, Y., Santagata, R., & Villavicencio, A. (2021, April). Combining algorithmic approaches and human insights to establish trustworthiness in qualitative research. Paper presented at *AERA Annual Meeting 2021*.

2020

Nguyen, H., Schmidt, D.**, Santagata, R. (2020, November). Crystal Code: Examining the impact of computational modeling on scientific systems

- thinking. Poster presented at *International Society for Technology in Education (ISTE)*. Anaheim, CA.
- **Nguyen, H.** (2020, September). In or out of sync: Funding in early childhood through text analytics. Paper presented at *Conference on Educational Data Science*, Stanford, CA. [Honorable Mention for Best Paper]
- **Nguyen, H.**, Santagata, R., & Warschauer, M. (2020, April). Co-design dynamics in community science education: Teachers, researchers, and community partners. Paper presented at *AERA Annual Meeting 2020*. San Francisco, CA. (Conference canceled)
- Fischer, C., **Nguyen, H.**, Feng, Y., Fiorini, S., Kalender, Y., McKay, T., ..., & Warschauer, M. (2020, April). Advanced placement course credit and undergraduate student success in STEM gateway courses. Paper presented at *AERA Annual Meeting 2020*. San Francisco, CA. (Conference canceled)
- Wegemer, C., Clark, H., Gyles, S., Kochmanski, N., Lee, U., **Nguyen, H.**, ..., & Steiss, J. (2020, April). Advancing research-practice partnerships: Leveraging the positionality of graduate student researchers. Poster presented at *AERA Annual Meeting 2020*. San Francisco, CA. (Conference canceled)
- Jacob, S., **Nguyen, H.**, Garcia, L., Richardson, D., & Warschauer, M. (2019, October). Design of computational thinking curriculum for multilingual learners. Paper presented at *Connected Learning Summit*. Irvine, CA.
 - **Nguyen, H.** (2019, September). Social discourse to promote computational thinking. Paper presented at the *Learning Sciences Graduate Student Conference*. Evanston, IL.
 - **Nguyen, H.** (2019, April). Autonomous, but together: Elementary teachers' self-efficacy and autonomy. Paper presented at *AERA Annual Meeting 2019*. Toronto, Canada.
 - Jacob, S., **Nguyen, H.**, Richardson, D., & Warschauer, M. (2019, February). Developing a computational thinking curriculum for multilingual students: An experience report. Poster presented at *Research on Equity and Sustained Participation in Computing, Engineering, & Technology (RESPECT)*. Minneapolis, MN.

INVITED PRESENTATIONS

- 2021 Routines in Education Data Visualizations. Presentation at National Network of Education Research data club. April 2021. Remote.
- Equitable Practices in Cross-Institutional Research Projects. Presentation at the Sloan Equity and Inclusion in STEM Introductory Courses Meeting. June 2020. Remote.
- 2019 Educational Dashboard Expo. NSF Education Data Analytics Collaborative Workshop. December 2019. New York, NY.

Advanced Placement Course Credit and Student Success in STEM Gateway Courses. Presentation at the Sloan Equity and Inclusion in STEM Introductory Courses Meeting. June 2019. Ann Arbor, MI.

GRANTS

External Grants

2023-2026 National Science Foundation. ITEST: Innovative Technology Experiences for

Students and Teachers (\$499,801)

Project: Equity-Centered Design of Conversational Agents for Inclusive Science

Communication Education in High Schools

Principal Investigator: Rossella Santagata (University of California, Irvine)

Co-Principal Investigators: Ha Nguyen, Sara Ludovise (Orange County Department

of Education)

Internal Grants

2023-2024 USU Research Catalyst Seed Grant (\$19,998)

Project: Datascape: Developing Data Literacy in Upper Elementary Grades

Principal Investigator: Ha Nguyen. Co-Principal Investigator: Anna Miller (USU,

Environment & Society)

2023-2024 Emma Eccles Jones College of Education & Human Services. Rapid Fund (\$9,500).

Project: Designing Instructional Technology for Collaboration with Generative AI

Principal Investigator: Ha Nguyen.

2022-2023 USU Center for Intersectional Gender Studies & Research. Faculty Research

Fellowship (\$1,500).

Project: Datascape: Integrating Intersectionality into Data Visualizations

Principal Investigator: Ha Nguyen

2021 University of California-Irvine

Center for Teacher Development and Professional Practice (\$2,000)

Project: Designing a Conversational Agent in Collaborative Discussion for Systems

Thinking.

Principal Investigator: Ha Nguyen

HONORS & AWARDS

| HONORS & A | WARDS |
|------------|---|
| 2021 | Recipient, Michael E. Martinez Prize for Outstanding Educational Research and |
| | Service |
| 2021 | Best Paper Nominee , The 2 nd International Conference of Quantitative Ethnography. |
| 2020 | Best Poster Nominee, The 1st International Conference of Quantitative Ethnography |
| 2020 | Honorable Mention for Best Paper, Conference on Educational Data Science. |
| 2018-2023 | Provost Fellowship, UC Irvine. |
| 2014-2018 | University Scholars Program, full merit scholarship at Duke University for students |
| | demonstrating interest in interdisciplinary fields of study (selection of ~10 |
| | students/1700 matriculating undergraduates). |

TEACHING

Courses taught at Utah State University, Logan, Utah (2022-Present)

Department of Instructional Technology & Learning Sciences (ITLS)

Undergraduate ITLS3120: Design Perspectives and Processes II (Instructor, Online Asynchronous;

S23). Undergraduate course that introduces advanced issues in design. Students develop design philosophy and portfolio projects by applying course materials.

ITLS6730: Games & Learning (Instructor, Online Asynchronous; F22, F23). Graduate

Graduate course (>90% Master's students) that introduces students to game design

principles and theories underlying game design. The course applies project-based learning for students to design a learning unit or game in their professional contexts. ITLS6870/7870: Introduction to Learning Analytics (Instructor, Face-to-Face; S24). Graduate course (>90% PhD students) that introduces students to fundamental areas in learning analytics. The course combines theories with applications of learning analytics in R and Python. Students design a research proposal in their contexts.

Invited Workshops and Presentations at Other Institutions

Undergraduate Headway Program (Lead Mentor). 12-week program that guides high school and

undergraduate students from Vietnamese universities through conducting independent

research. 2021. Enrollment: 40 students.

Computational Thinking Research from a Design-Based Approach. (Facilitator).

Google ExploreCSR, Long Beach, CA. 2019. Enrollment: 20 students.

Graduate Early Career Discussion. Panel for PhD students in Learning Sciences at University

of Wisconsin-Madison about transitioning for post-graduation careers.

Quantitative Ethnography Accelerator Program (Facilitator). 4-week research

program for researchers interested in applying quantitative ethnography

methodologies to integrate analytics into analyses of large-scale qualitative data. Summer-Fall 2021. Enrollment: 28 researchers (mix of professors & PhD students).

R for Data Science (Facilitator). 8-week workshop series at University of California,

Irvine that introduces undergraduate and graduate students to data processing, visualization, and analyses in R. 2019-2021. Enrollment: 25-30 students per session.

RESEARCH SUPERVISION

Utah State University, Logan, Utah (2022-Present)

Co-chair, PhD Morgan Diederich (PhD, Instructional Technology & Learning Sciences, TBD).

(1) Current stage: Passed Comprehensive Exam, working on Proposal.

Advisees, PhD Saríah Lopez Fierro (PhD, Instructional Technology & Learning Sciences, TBD).

(1)

Committee Mengying Jiang (PhD, Instructional Technology & Learning Sciences, TBD). Current

member, PhD stage: Comprehensive Exam

(6) Jenna Matthews (PhD, Instructional Technology & Learning Sciences, TBD). Current

stage: Comprehensive Exam

Bonni Jones (PhD, Instructional Technology & Learning Sciences, TBD). Current

stage: Comprehensive Exam

Reagan Siggard (PhD, Instructional Technology & Learning Sciences, TBD). Current

stage: Comprehensive Exam

Nathan Justis (PhD, Instructional Technology & Learning Sciences, TBD). Current

stage: Passed Proposal (Fall 2022), working on Dissertation.

Ryan Rarick (PhD, Teacher Education & Leadership, TBD). Current stage: Passed

Comprehensive Exam (Fall 2022)

Committee Man Zhang (MS, Instructional Technology & Learning Sciences) member, MS David Bobo (MS, Instructional Technology & Learning Sciences)

(3) Victoria Terry (MA, Instructional Technology & Learning Sciences; committee

member for the MS track in 2022-2023)

Research Prasina Parameswaran (PhD, Instructional Technology & Learning Sciences, TBD)

Assistants, Morgan Diederich (PhD, Instructional Technology & Learning Sciences, TBD)

PhD (2)

Research Jake Hayward (Undergraduate, Instructional Technology & Learning Sciences, TBD)

Assistants, Lily Roth (Undergraduate, Mathematics & Statistics, TBD)

Undergraduate

(2)

University of California-Irvine (2018-2023)

Research Supervised 23 undergraduate students on different projects funded by the NSF and Assistants, IES. 4 students went on to attend Master's programs in Education and Psychology.

Undergraduate

(23)

SERVICE

National Science Foundation Proposal Reviewer

2023 Review Panel for NSF's EDU division 2023 Review Panel for NSF's CISE division

Journal Reviewer

2023 Science Education (Reviewer, 1 paper)

Journal of Educational Computing Research (Reviewer, 1 paper)

Teaching and Teacher Education (Reviewer, 1 paper)

AERA Open (Reviewer, 1 paper)

AERA Open (Reviewer, 1 paper)

Educational Researcher (Reviewer, 1 paper)

Journal of Engineering Education (Reviewer, 1 paper)

Conference Reviewer

FabLearn/Constructionism (Reviewer; 3 papers)

Annual Symposium on Human-Computer Interactions in Play (CHI PLAY; Reviewer,

1 paper)

Conference on Interaction Design & Children (IDC; Reviewer, 1 paper)

2022 Conference on Human Factors in Computing Systems (CHI; Reviewer, 2 papers)

International Conference of Quantitative Ethnography (Meta-reviewer, compile and

evaluate the reviews of 4 papers)

Annually International Conference on Learning Analytics & Knowledge Conference (LAK)

since 2019 (Program committee, 2-4 papers annually)

International Society of the Learning Sciences (Reviewer, 2-4 papers annually)

2019-2022 Annual Meeting of the American Educational Research Association (Reviewer, 5-8

papers)

International Conference of Quantitative Ethnography (Reviewer, 2 papers annually)

2018-2019 ACM Special Interest Group on Computer Science Education (Reviewer, 2 papers

annually)

University Service

Utah State University

University Learning Analytics Working Group (2022-present)

Department Master's Students Admissions Committee (2022-present)

Professional Affiliations

Society for Learning Analytics Research (SOLAR) American Educational Research Association (AERA) International Society of the Learning Sciences (ISLS)