

## Daniel Ritchie

University of California, Irvine

School of Education

3200 Education Bldg, Irvine, CA 92617

Email: [drritchi@uci.edu](mailto:drritchi@uci.edu)

Website: [dritchie1031.github.io](https://dritchie1031.github.io)

### EXPERTISE

**Areas** Interactive technologies; applications of AI in education; human-computer interaction; AI literacy; computer science education

**Methods** Design-based implementation research; experimental design; log data extraction and analysis; survey design

### EDUCATION

**2026 (Expected) Ph.D. in Education** (specialization: Digital Media)  
University of California, Irvine (4.00/4.00 GPA)

**2021 B.S. in Computer Science, Minor in Education**  
University of California, Davis (3.95/4.00 GPA)

### RESEARCH EXPERIENCE

**2021-Present Project Lead.** *CodeAI*, UCI School of Education.  
Actively designing, developing, and eventually testing a curriculum and computer-based tool to teach data and AI literacy. Managing a project with multiple stakeholders and sub-teams. Developing a tool using Vercel, NextJS, Google Cloud, and Tensorflow.

**2021-Present Graduate Student Researcher.** *Converse to Learn*, UCI School of Education. (PI: Dr. Mark Warschauer)  
Studied the effectiveness of a conversational agent embedded within children's TV show episodes. Collected data by administering pre- and post-tests to students aged 3-7. Analyzed subsequent quantitative data.

**2022-Present Research Collaborator.** *CP-LEADS*, UCI School of Education.  
Designed a survey study to evaluate undergraduate perceptions of programming and data science which will be sent to the incoming undergraduate fellows and analyzed.

**2021-2022 Graduate Student Researcher.** *Scalable AI to Support Reading Comprehension*, UCI School of Education, IBM Research, University of Notre Dame. (PI: Dr. Ying Xu)  
Developed a high-quality database of questions and answers to fairy tales that was used to train an NLP model to generate question-answer pairs. Tested the

effectiveness of this model embedded within a human-AI collaborative chatbot for parent-child interactive storytelling.

- 2022 Research Collaborator.** *Capturing Online Instructor Practices Using Learning Management System Data*, UCI School of Education. (PI: Dr. Di Xu)  
Developed and tested measures to analyze instructor behaviors in Learning Management Systems (LMSs). Utilized scientific Python and SQL to clean, handle, and analyze data.

### PUBLICATIONS

**Ritchie, D.**, Ojeda Ramirez, S., Garcia, L., Warschauer, M. (submitted). Development and Implementation of an AI Literacy Curriculum for Upper Elementary and Middle School Students: An Experience Report. In *Proceedings of the 54th ACM Technical Symposium on Computer Science Education (SIGCSE '23)*.

Xu, Y., Wang, D., Yu, M., **Ritchie, D.\***, Yao, B., Wu, T., Zhang, Z., Li, T., Bradford, N., Sun, B., Hoang, T., Sang, Y., Hou, Y., Ma, X., Yang, D., Peng, N., Yu, Z., & Warschauer, M. (2022). Fantastic questions and where to find them: FairytaleQA— An authentic dataset for narrative comprehension. In *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (ACL '22)*.

\* Equal-contributing 1st author

Zhang, Z., Xu, Y., Wang Y., Yao, B., **Ritchie, D.**, Wu, T., Yu, M., Wang, D., & Li, T. (2022). Storybuddy: A human-AI collaborative agent for parent-child interactive storytelling. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (CHI '22)*.

**Ritchie, D.** (2020). Review of existing video games for computer science education. *Prized Writing*, 31, 187-197.

### CONFERENCE PRESENTATIONS

Xu, Y., Levine, J., Vigil, V., **Ritchie, D.**, Zhang, S., Thomas, T., Barrera, C., Meza, M., Bustamante, A. S., Warschauer, M. (submitted). Interaction With a Television Character Powered by Artificial Intelligence Promotes Children's Science Learning. *Annual Meeting of the American Educational Research Association*.

### HONORS/AWARDS

**2017-2021 University Honors, UC Davis**

**2017-2021 Regents Scholar, UC Davis**

**2017-2021 Deans' Honor List, UC Davis**

**TECHNICAL SKILLS**

**Programming Languages** Python, JavaScript, Java, R, C/C++, HTML/CSS, SQL, Matlab

**Frameworks** Pandas, NumPy, React, Node.js, MaterialUI, Next.js, Firebase, Django

**Other Technologies** Vercel, Excel, Git, Unix

**WORK EXPERIENCE**

**Jun. - Sep. 2020 Software Engineering Intern**

*Polar, Remote*

- Developed prototypes and features for a student-focused PDF annotating and note taking app.

**Jun. 2019 - Web Development Intern**

**Jun. 2020** *Center for Regional Change, UC Davis, Davis, CA*

- Worked on the Community Futures, Community Lore website.
- Implemented an existing design for a front-end website meant to aid and instruct Youth Participatory Action Research (YPAR).
- Developed interactive tools to aid website navigation.

**Jun. - Aug. 2019 Educational Technology Intern**

*ThoughtSTEM, San Diego, CA*

- Developed curricula and technology for students learning to program games in Racket

**TEACHING EXPERIENCE**

**Apr. 2022** Guest Lecturer. *Converse to Learn*, Education 30: 21st Century Literacies, Spring Quarter. UC Irvine.

**Oct. 2021** Instructor. Personal Website and HTML/CSS Programming Workshop for Education Researchers. UC Irvine.

**Oct. 2020 - May 2021** Instructor. Java, Minecraft Modding, and Roblox Coding classes. iD Tech.

**Jan. - Mar. 2020** Teaching Assistant. High School Robotics class. Davis Senior High School.

**Jun. - Sep. 2019** Instructor. Game Programming with Racket. ThoughtSTEM.

Daniel Ritchie Curriculum Vitae

---

***Oct. 2018 -*** Teaching Assistant. Junior High School Technology and Programming  
***Jan. 2019*** class. Harper Junior High School.