

YANYAN REN

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Ph.D. candidate in computing education, interested in designing and evaluating different ways to more effectively teach responsible computing

EDUCATION

Brown University, Ph.D. in Computer Science

Expected May 2024

- Relevant Coursework: Formal Methods, Logic for Systems, Programming Languages, Deep Learning, Privacy-Conscious Computer Systems, Data Science, UIUX, Human Factors, Computer-Aided Instruction

Swarthmore College, B.A. in Computer Science | Minor in Educational Studies

May 2018

RESEARCH EXPERIENCE

Social Threat Modeling

2020 - present

- Designed a framework for identifying a variety of social threats in the kinds of software systems that university students encounter in their first two years of study
- Conducted studies in four different offerings of various intro courses and analyzed qualitative data to evaluate the framework and measure students' progress
- Worked with the departmentwide socially responsible computing program, using our research to advise and improve the training of the teaching assistants and the design of the CS curriculum

Data Organization Tutor

2019 - 2020

- Worked with three undergrads to design and analyze an interactive online tutor that engages students to appreciate differences between data organizations choices

TA Hours Tracking

2018 - 2019

- Designed a tool to keep track of the kinds of questions students ask during office hours with teaching assistants
- Analyzed data and generated insight into students' progress on program design help-seeking over the course of the semester

COURSE DEVELOPMENT

CSCI260 Compilers and Program Analysis, TA

September 2022 – December 2022

- Held office hours, graded assignments

CSCI710 Logic for Systems, Socially Responsible Computing Module

January 2022 - May 2022

- Co-designed the content of the module with the professor and two undergraduate TAs, including assignments, grading, and office hours
- Recommended case studies and framework of guiding questions based on current research on social threat modeling, and created a different version of the framework that guides students to think through social implications of abstraction choices

PUBLICATIONS

Yanyan Ren and Kathi Fisler. "A Social Threat Modeling Framework to Structure Teaching about Responsible Computing." In *Proceedings of the 54th ACM Technical Symposium on Computing Science Education V. 1 (SIGCSE 2023)*

Gu, Xingjian, Max A. Heller, Stella Li, Yanyan Ren, Kathi Fisler, and Shriram Krishnamurthi. "Using Design Alternatives to Learn About Data Organizations." In *Proceedings of the 2020 ACM Conference on International Computing Education Research*, pp. 248-258. 2020.

Yanyan Ren, Shriram Krishnamurthi, and Kathi Fisler. "What Help Do Students Seek in TA Office Hours?." In *Proceedings of the 2019 ACM Conference on International Computing Education Research*, pp. 41-49. 2019.

Renninger, K. Ann, Yanyan Ren, and Heidi M. Kern. "Motivation, engagement, and interest: "In the end, it came down to you and how you think of the problem"." In *International handbook of the learning sciences*, pp. 116-126. Routledge, 2018.