

# Hye Sun Yun

COMPUTER SCIENCE PHD STUDENT

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## Education

### Northeastern University

PH.D. IN COMPUTER SCIENCE

- Advised by Timothy Bickmore and Byron Wallace

*Boston, MA*

*September 2020 - Present*

### Wellesley College

B.A. IN COMPUTER SCIENCE AND AFRICANA STUDIES, MAGNA CUM LAUDE

*Wellesley, MA*

*September 2013 - May 2017*

## Research Experience

### Northeastern University, Relational Agents Group

RESEARCH ASSISTANT

- Conducted research in the field of HCI and healthcare advised by Timothy Bickmore.
- Assisted in developing a research mHealth app with a conversational virtual agent to promote healthy behaviors for historically Black church members by exploring ways to increase engagement and use through notifications and storytelling.
- In-progress work on enhancing patient-reported outcomes for individual use through embodied conversational agents.
- In-progress work on using large language models to generate clinical depression survey item variants and testing their validity and reliability.

*Boston, MA*

*September 2020 - Present*

### Northeastern University, NLP Research Group

RESEARCH ASSISTANT

- Conducted research in the field of NLP and biomedical text advised by Byron Wallace.
- Worked on NLP multi-document summarization research to improve and update systematic reviews of biomedical literature to help medical professionals make better clinical and policy decisions.
- Explored ways to utilize large generative language models to help with writing systematic reviews of biomedical literature through user surveys.

*Boston, MA*

*May 2021 - Present*

### University of Houston, Computational Biomedicine Lab

REU UNDERGRADUATE RESEARCHER

- Completed an NSF-funded 10 week research program at the University of Houston under the supervision of Professor Ioannis A. Kakadiaris.
- Co-authored a literature review on anti-spoofing techniques for face recognition in computer vision systems.
- Compared how spoofing affects the accuracy of different face recognition systems.

*Houston, TX*

*June 2016 - August 2016*

## Professional Experience

### Wayfair

FULL-STACK SOFTWARE ENGINEER/ENGINEERING MANAGER

- Contributed to building new features as a full-stack developer of the supplier-facing web tool for adding new products to the catalog in bulk.
- Led 2 large, multi-phase refactoring projects – a conversion of the frontend from Tungsten to React and Redux and the rewriting of my team's Excel sheet import service.
- Guided and mentored my team through the addition of 10+ new hires as the most senior engineer on the team.
- Led larger team effort to incorporate pair programming as part of development work and led a program to train more code reviewers on the team.
- Gave department and team-wide talks on creating reusable Redux components and Jest testing.
- Led and managed a team of 3 software engineers.

*Boston, MA*

*July 2017 - August 2020*

## Teaching Experience

### Wayfair

TEACHING ASSISTANT

- Assisted students during the hands-on activities during Wayfair's onboarding MVC framework class, once every 3 months.
- Answered questions online and in-person about MVC framework at Wayfair.

*Boston, MA*

*January 2019 - August 2020*

## Wayfair

QUALITY ASSURANCE TO QUALITY ENGINEER PROGRAM INSTRUCTOR

Boston, MA

September 2019 - October 2019

- Led and instructed 4 department-wide sessions on SQL and Introduction to Programming in PHP to beginners on coding.

## Wayfair

LABS MENTOR

Boston, MA

August 2019

- Co-mentored 30 entry-level engineers in the Labs program on their first month's full-stack project (React and PHP).
- Provided constant technical feedback through code reviews and conversations during weekly drop-in hours.

## Wellesley College, Pforzheimer Learning and Teaching Center

PEER TUTOR AND GRADER

Wellesley, MA

September 2014 - May 2016

- Spring 2016 | CS 231 Algorithms | Held weekly group tutoring sessions and graded homework. Contributed to weekly calibration meetings and teaching pedagogy discussions with the professor and fellow tutors & graders.
- Fall 2016 | CS 320 Tangible User Interface | Held weekly drop-in hours.
- Fall 2016 | CS 235 Languages & Automata | Held 1-1 tutoring and review sessions for CS235
- Fall 2014 & Spring 2015 | JPN 101 & 102 Beginning Japanese | Held weekly drop-in sessions to help students with their oral exercises and written homework.

## Publication

### JOURNAL ARTICLES

#### In a pilot study, automated real-time systematic review updates were feasible, accurate, and work-saving

Iain J. Marshall, Thomas A. Trikalinos, Frank Soboczenski, **Hye Sun Yun**, Gregory Kell, Rachel Marshall, Byron C. Wallace

*Journal of Clinical Epidemiology* 153 (2023) pp. 26–33. 2023

#### Church after Sunday: supporting everyday well-being through techno-spiritual health interventions

Teresa K O'Leary, Elizabeth Stowell, Darley Sackitey, **Hye Sun Yun**, David Wright, Michael Paasche-Orlow, Timothy Bickmore, Andrea G. Parker

*Interactions* 29.4 (2022) pp. 90–93. ACM New York, NY, USA, 2022

### CONFERENCE PROCEEDINGS

#### Motivating Health Behavior Change with a Storytelling Virtual Agent

**Hye Sun Yun**, Matias Volonte, Timothy Bickmore

*Proceedings of the 22nd ACM International Conference on Intelligent Virtual Agents*, 2022, Faro, Portugal

#### Techno-Spiritual Engagement: Mechanisms for Improving Uptake of mHealth Apps Designed for Church Members

**Hye Sun Yun**, Shou Zhou, Everlyne Kimani, Stefan Olafsson, Teresa K. O'Leary, Dhaval Parmar, Jessica A. Hoffman, Stephen S. Intille, Michael K. Paasche-Orlow, Timothy W. Bickmore

*Joint Proceedings of the IUI 2022 Workshops: APEX-UI, HAI-GEN, HEALTHI, HUMANIZE, TExSS, SOCIALIZE co-located with the ACM International Conference on Intelligent User Interfaces (IUI 2022), Virtual Event, Helsinki, Finland, March 21-22, 2022, 2022*

## Grants & Awards

### GRANTS

- 2015 **Global Engagement Internship/Grant**, Wellesley College's Center for Work and Service Summer Internship Grant

Wellesley, MA

### AWARDS

- 2019 **1st Place**, Wayfair Supplier DIY Innovation Day  
2018 **Runner Up**, Wayfair Challenge Day

Boston, MA

Boston, MA

## Presentation

### ACM IUI HEALTHI Workshop

Remote

PRESENTER FOR <TECHNO-SPIRITUAL ENGAGEMENT: MECHANISMS FOR IMPROVING UPTAKE OF MHEALTH APPS DESIGNED FOR CHURCH MEMBERS>

March 2022

### PRISM Health Symposium

San Francisco, CA

PRESENTER FOR <"LONGITUDINAL ANALYSIS OF THE ATTITUDES AND CONVERSATIONS SURROUNDING VACCINES BY AFRICAN AMERICANS ON SOCIAL MEDIA">

December 2021

## Service and Volunteer

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- 2022 **Sub-reviewer**, Conference on Autonomous Agents and Multiagent Systems (AAMAS 2023)
- 2022 **Faculty Application Student Reviewer**, Khoury College of Computer Science, Northeastern University
- 2022 **Reviewer**, CHI 2023 Health Subcommittee
- 2022 **Reviewer**, Workshop on Robustness in Sequence Modeling for NeurIPS 2022
- Oct. 2022 **Guest Presenter**, Northeastern University's CS3950 Intro to CS Research *Boston, MA*
- Aug. 2022 **Workshop Panelist**, Northeastern University - Pathway to PhD Workshop *Boston, MA*
- 2022 **Program Committee Member**, UserNLP: User-centered Natural Language Processing Workshop
- 2021 **PhD Student Application Reviewer**, Khoury College of Computer Science, Northeastern University
- 2019-2020 **Leader**, Wayfair's Women+ in Software *Boston, MA*

## Extracurricular Activity

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- 2022 **Class of 2022 mentee**, ACL Year-Round Mentorship