Ha-Kyung (Hidy) **Kong**

152 Lomb Memorial Drive, Rochester, NY 14623

hidy.kong at rit dot edu | www.hidykong.com | hidykong | hidykong

Rochester Institute of Technology — *Rochester, NY*

Assistant Professor

Education

University of Illinois Urbana Champaign — *Champaign, IL*

PhD in Computer Science — *Aug 2019*

Advisor: Dr. Karrie Karahalios

Calvin College — *Grand Rapids, MI*

B.S. in Computer Science (with honors distinction) — *May 2013*

B.A. in Music (with honors distinction)

Research Interests

My research in Human-Computer Interaction aims to facilitate communication through visualizations. I design, build, and evaluate interactive systems to study people's perceptions and usage of data visualization in various domains including healthcare and the media.

Research and Professional Experience

Assistant Professor — *Seattle, WA*

Seattle University — *Fall 2019 - Spring 2023*

- Taught courses including data structures, discrete math, UX design, and visual analytics
- Advised individual students and capstone groups, served on various committees
- Conducted research on infographics with master and undergraduate students

Research Assistant — *Champaign, IL*

University of Illinois Urbana Champaign — *Fall 2016 - Spring 2019*

- Iteratively developed the design for a Family Behavior Support app (FBSapp) and implemented the app in Swift
- Held bi-weekly meetings with special education professors and graduate students to develop the FBSapp

Research Intern — *San Francisco, CA*

Adobe Creative Technologies Lab — *Summer 2016, 2017*

- Studied presenters' preferences and uses of visual cues that guide the audience's attention to a particular area of a visualization. Developed a visual cue taxonomy and a visual cue webtool (VisualQ).
- Studied frames and slants in visualization titles and how they affect visualization interpretation.

Website Developer — *Grand Rapids, MI*

Calvin College — *Summer 2012 - Spring 2013*

- Designed and implemented the parsing of a hymn database website
- Worked with different types of XML files and published books on Amazon and iBook

Publications

Journal articles (peer-reviewed)

Cullen, R., Heitkemper, E., Backonja, U., Bekemeier, B., & **Kong, H. K.** (2023). "Designing an infographic webtool for public health." In Journal of the American Medical Informatics Association (JAMIA).

Do, H., **Kong, H. K.**, Tetali, P., Lee, J. & Bailey, B. (2022). "To Err is AI: Imperfect Interventions and Repair in a Conversational Agent Facilitating Group Chat Discussions." In Proc. ACM Hum.-Comput. Interact, 1(CSCW).

Do, H., **Kong, H. K.**, Lee, J. & Bailey, B. (2022). "How Should the Agent Communicate to the Group? Communication Strategies of a Conversational Agent in Group Chat Discussions." In Proc. ACM Hum.-Comput. Interact, 1(CSCW).

Kong, H. K.*, Lee, J.*, & Karahalios, K. (2017). "A Comparative Study of Visualizations with Different Granularities of Behavior for Communicating about Autism." In Proc. ACM Hum.-Comput. Interact, 1(CSCW), 59-1. (27% acceptance rate)
*Both authors contributed equally to this work

Rahman, S., Aliakbarpour, M., **Kong, H. K.**, Blais, E., Karahalios, K., Parameswaran, A., & Rubinfield, R. (2017). "I've seen enough: incrementally improving visualizations to support rapid decision making." In Proceedings of the VLDB Endowment, 10(11), 1262-1273.

Kong, H. K., Liu, Z., & Karahalios, K. (2017, June). "Internal and external visual cue preferences for visualizations in presentations." In Computer Graphics Forum (Vol. 36, No. 3, pp. 515-525). (27% acceptance rate)

Conference proceedings (peer-reviewed)

Jung G., Oh J., Jung Y., Sun J., **Kong, H. K.**, & Lee U. "Good Enough!": Flexible Goal Achievement with Margin-based Outcome Evaluation." In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems. ACM. (26.3% acceptance rate)

Kim, J. G., **Kong, H. K.**, Hong, H, & Karahalios, K. "Enriched Social Translucence in Medical Crowdfunding." In Proceedings of the 2020 Conference on Designing Interactive Systems (DIS). ACM. (24% acceptance rate)

Kong, H. K. & Karahalios, K. "Addressing Cognitive and Emotional Barriers in Parent-Clinician Communication through Behavioral Visualization Webtools." In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems. ACM. (24.3% acceptance rate)

Kong, H. K., Liu, Z., & Karahalios, K. "Trust and Recall of Information across Varying Degrees of Title-Visualization Misalignment." In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (p. 346). ACM. (23.8% acceptance rate)

Kong, H. K., Zhu, W., Liu, Z., & Karahalios, K. "Understanding Visual Cues in Visualizations Accompanied by Audio Narrations." In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (p. 50). ACM. (23.8% acceptance rate)

Kong, H. K., Liu, Z., & Karahalios, K. "Frames and Slants in Titles of Visualizations on Controversial Topics." In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (p. 438). ACM. (25.7% acceptance rate)

Kong, H. K., & Karahalios, K. "Parental Perceptions, Experiences, and Desires of Music Therapy." In AMIA Annual Symposium Proceedings (Vol. 2016, p. 1870). American Medical Informatics Association.

Lee, J., **Kong, H. K.**, Lin, S., & Karahalios, K. "Plexlines: Tracking Socio-communicative Behaviors Using Timeline Visualizations." In AMIA Annual Symposium Proceedings (Vol. 2016, p. 1890). American Medical Informatics Association.

Kong, H. K.*, Lee, J.*, Ding, J., & Karahalios, K. "EnGaze: Designing Behavior Visualizations with and for Behavioral Scientists." In Proceedings of the 2016 ACM Conference on Designing Interactive Systems (DIS, pp. 1185-1196). ACM. (26% acceptance rate)

Kim, J. G., **Kong, H. K.**, Karahalios, K., Fu, W. T., & Hong, H. "The power of collective endorsements: credibility factors in medical crowdfunding campaigns." In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (pp. 4538-4549). ACM. (23.4% acceptance rate)

Kong, H. K., Wu, Y. W., Bailey, B., & Karahalios, K. (2015). "Culture, Imagined Audience, and Language Choices of Multilingual Chinese and Korean Students on Facebook." In International Conference on Social Informatics (pp. 1-16). Springer, Cham.

Workshops and Posters (peer-reviewed)

Kong, H. K., Zhu R., Lu A. Z., He M., & Yuwen W. "The Effects of Data Visualization on User Perceptions of a Health Chatbot." 13th workshop on Visual Analytics in Healthcare 2022.

In Submission

Kong, H. K., Zainab, F., Turner, A., Bekemeier, B., & Backonja U. "Trends in and effectiveness of infographics for health communication: A scoping review." JAMIA 2022.

Selected Honors, Awards & Grants

2022-2024	**NSF CISE CRII Award:** Visualization-Based Multimodal Data Analysis for Qualitative Research. **PI**: Ha-Kyung Kong **Total**: $174,734 (USD)
2020,2021	**Undergraduate Student/Faculty Research Support Award (Seattle University)** **Total**: $12,447 (USD)
2018-2019	**Marion Morse Wood Fellowship** **Total**: $12,000 (USD) stipend with full-tuition coverage
2017	**Grace Hopper Celebration of Women in Computing (GHC) Student Scholarship**
Fall 2014	**Outstanding Teaching Assistant Award**
2013	**CCA Computing Award** Awarded to the top graduating senior in computer science
2009-2013	**Trustee Scholarship** Awarded to top 3% of first-year students accepted

Selected Research Projects

Job and housing web search practices of neurodiverse young adults

Seattle University

Co-Advisor

2022 - present

- Collaborator: Dr. Jennifer Kim (Georgia Institute of Technology)
- Conducted semi-structured interviews and contextual inquiries with neurodiverse and neurotypical adults as they searched for jobs and housing online.
- Analyzed behavioral and interview data to understand common and unique goals, strategies, and challenges.

Enhancing Healthcare Chatbot Experience

Seattle University

Advisor

2020 - present

- Collaborator: Dr. Weichao Wuyen (Nursing, University of Washington Tacoma)
- Integrated Fitbit data on CocoBot, a chatbot for the families of children with chronic health conditions, to track the sleep quality of the caregivers.
- Designed visualizations for showing the self-reported frequency of the symptoms and the effectiveness of the solutions.

Public Health Infographic

Seattle University

Advisor

2020 - present

- Collaborators: Dr. Uba Backonja (Nursing, University of Washington Tacoma), Dr. Elizabeth Heitkemper (Nursing, University of Texas at Austin), Dr. Anne Turner (PUblic Health, University of Washington Seattle), Dr. Bette Bekemeier (Nursing, University of Washington Seattle)
- Conducted a literature review and an online survey on public health infographics.
- Initiated the development of an infographic webtool for public health professionals that is accessible and easy to use.

Slants and Frames in Visualization Titles

UIUC

Lead student

2017-2019

- Collaborator: Dr. Zhicheng Liu (University of Maryland)
- Measured the impact of visualization titles on the recall of information and the perceived bias.
- Studied how people compose titles for visualizations based on the proposed frame and intent.

Visualizing Autism Pre-screening Sessions

UIUC

Lead student

2015-2019

- Developed two webtools (Plexlines and EnGaze) for visualizing communicative behaviors during pre-screening sessions.
- Interviewed clinicians and parents on the use of visualization webtools in their communication.

Teaching and Advising Experience

Instructor

Seattle, WA

Seattle University

Fall 2019 – present

- CPSC 2430 —Data Structures (Fall 2019, Spring 2020, Fall 2020, Winter 2021, Fall 2021)
- CPSC 2600 —Foundations of Computer Science (Fall 2021, Winter 2022)
- CPSC 3400 —Languages and Computation (Winter 2023)
- CPSC 4220/5220 —User Experience Design (Spring 2021, Spring 2022)
- CPSC 5320 —Visual Analytics (Winter 2020, Spring 2021, Spring 2022)

Senior Capstone Project Advisor

Seattle University

- 2021-2022: GearSim UX Improvement.
  Sponsor: SDI Engineering

- 2020-2021: 1KM Agency Marketing Data Mapping.
  Sponsor: Sid Wambach

- 2019-2020: ITS Chatbot.
  Sponsor: Seattle University Information Technology Services

MSCS Project Advisor

Seattle University

- Public health infographics: literature survey and categorization of existing infographics
  Fariha Zainab (Spring 2020 - Fall 2021)

- Molecular HIV surveillance interview audio-data visualization
  Chia-Ling (Lydia) Chi (Spring 2021)

- Integrating Fitbit data in a Healthcare Chatbot
  Vindhya Nair Lolakumari Jayachandran (Summer 2021 - Fall 2021)

Teaching Assistant

Champaign, IL

University of Illinois Urbana Champaign

Fall 2013 – Spring 2016

- INFO103 (≈ 40 students) – Created and graded a machine problem, led weekly lab sections
- CS101 (≈ 700 students) - Led two weekly lab sections of 40 students
- CS467 - Social Visualizations (≈ 90 students) - Reviewed the weekly paper critiques & mentored and evaluated design projects

Invited Talks

University of Washington
- BIME 533 [Public Health and Informatics] - Public Health Infographics - 02/02/2021, 02/01/2022

Korea Military Academy
- Seminar - Addressing Cognitive and Emotional Barriers in Parent-Clinician Communication through Visualization Webtools - 09/28/2021

Georgia Institute of Technology
- CS 4803 [Personal Health Informatics] - Guiding Communication through Data Visualizations - 02/17/2021

Korea Advanced Institute of Science and Technology
- IE481 [Data Visualization] - Guiding Communication through Data Visualizations - 06/18/2020

Seattle University
- CPSC 5890 [Seminar] - Guiding Communication through Data Visualizations - 05/20/2020

University of Illinois Urbana Champaign
- CS598KGK [Social Spaces] - Misinformation and Consequences - 9/13/2018
- CS598KGK - Public Displays and Performance - 9/12/2017
- CS467 [Social Visualization] - NLP, Sentiment Analysis, Machine Learning and Pattern Recognition - 03/29/2016
- CS467 - Ethics and Privacy - 11/18/2014
- CS467 - NLP, Sentiment Analysis, Machine Learning and Pattern Recognition - 10/28/2014
- CS467 - Audio-Video Systems - 10/21/2014
- CS105 [Intro Computing]- Recursion - 11/11/2013

Academic and Community Services

Associate Chair	CHI 2022, CHI 2023
Program Committee	COMPSAC 2019
Funding Reviewer	NSF Proposal Review Panel 2021, The Canada Foundation for Innovation (CFI) 2021
Reviewer	TVCG 2022, VIS 2018 & 2020-2022, CSCW 2022, CHI 2018-2022, SIGGRAPH 2021, CGA 2020, C&C 2019, AMIA 2017 & 2019, JAMIA 2018
Mentor	Girls who Code, San Francisco, U.S.A., Summer 2016
Student Volunteer	2018 ACM CSCW, Jersey City, U.S.A., Nov 2018
University Committee	Office of Sponsored Projects Advisory Committee, CS Professionalism and DEI Committee, Boeing Diversity Committee