STELA HANBYEOL SEO

KYOTO UNIVERSITY (京都大学)
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AFFILIATIONS

ASSISTANT PROFESSOR
Department of Social Informatics
Graduate School of Informatics
Kyoto University, Japan

PUBLICATIONS

Peer Reviewed Journal Publications

Stela H. Seo, James E. Young, Pourang Irani. "How are your robot friends doing? A design exploration of graphical techniques supporting awareness of robot team members in teleoperation," *International Journal of Social Robotics*, 2021. Springer.

Daniel J. Rea, **Stela H. Seo**, James E. Young. "Social robotics for nonsocial teleoperation: leveraging social techniques to impact teleoperator performance and experience," *Current Robotics Reports*, 2020. Springer.

Stela H. Seo, Keelin Griffin, James E. Young, Andrea Bunt, Susan Prentice, Veronica Loureiro-Rodríguez. "Investigating people's rapport building and hindering behaviors when working with a collaborative robot," *International Journal of Social Robotics*, vol.10, no.1, pp.147-161, 2018. Springer.

Denise Y. Geiskkovitch, **Stela H. Seo**, Derek Cormier, James E. Young. "Please continue, we need more data: an exploration of obedience to robots," *ACM Transactions on Human-Robot Interaction*, vol.5, no.1, pp.82-99, 2016.

Pak Ching Li, G. H. John van Rees, **Stela H. Seo**, Navin M. Singhi. "Friendship 3-hypergraphs," *Discrete Mathematics*, vol.312, no.11, pp.1892-1899, 2012. Elsevier.

Peer Reviewed Conference Full Papers

Stela H. Seo, James E. Young. "What happened while I was away? Leveraging visual transition techniques to convey robot states in multi-robot teleoperation," *International Conference on Social Robotics*, November 2021. Springer. Singapore. [oral presentation by **Stela H. Seo**]

Chris Vattheuer, Annalena Nora Baecker, Denise Y. Geiskkovitch, **Stela H. Seo**, Daniel J. Rea, James E. Young. "Blind Trust: How making a device humanoid reduces the impact of functional errors on trust," *International Conference on Social Robotics*, November 2020. Springer. Golden, Colorado, USA.

Denise Y. Geiskkovitch, Daniel J. Rea, Agape Y. Seo, **Stela H. Seo**, Brittany Postnikoff, James E. Young. "Where should I sit? Exploring the impact of seating arrangement in a human-robot collaborative task," *ACM International Conference on Human-Agent Interaction,* November 2020. Sydney, Australia.

Elaheh Sanoubari, **Stela H. Seo**, Diljot S. Garcha, James E. Young, Verónica Loureiro-Rodríguez. "Good robot design or Machiavellian? An in-the-wild robot leveraging minimal knowledge of passersby's culture," *ACM/IEEE International Conference on Human-Robot Interaction, alt.HRI track*, March 2019. Daegu, Republic of Korea.

Stela H. Seo, James E. Young, Pourang Irani. "Where are the robots? In-feed embedded techniques for visualizing robot team member locations," *IEEE International Symposium on Robot and Human Interactive Communication, RO-MAN*, August 2017. Lisbon, Portugal. [oral presentation by **Stela H. Seo**]

Stela H. Seo, Daniel J. Rea, Joel Wiebe, James E. Young. "Monocle: interactive detail-in-context using two pan-and-tilt cameras to improve teleoperation effectiveness," *IEEE International Symposium on Robot and Human Interactive Communication, RO-MAN*, August 2017. Lisbon, Portugal. [oral presentation by **Stela H. Seo**]

Daniel J. Rea, **Stela H. Seo**, Neil Bruce, James E. Young. "Movers, shakers, and those who stand still: visual attention-grabbing techniques in robot teleoperation," *ACM/IEEE International Conference on Human-Robot Interaction*, March 2017. Vienna, Austria.

Stela H. Seo, Jihyang Gu, Seongmi Jeong, Keelin Griffin, James E. Young, Andrea Bunt, Susan Prentice. "Women and men collaborating with robots on assembly lines: designing a novel evaluation scenario for collocated human-robot teamwork," *ACM International Conference on Human-Agent Interaction*, October 2015. Daegu, Republic of Korea. [oral presentation by **Stela H. Seo**]

Stela H. Seo, Denise Geiskkovitch, Masayuki Nakane, Corey King, James E. Young. "Poor thing! Would you feel sorry for a simulated robot? A comparison of empathy toward a physical and a simulated robot," *ACM/IEEE International Conference on Human-Robot Interaction*, March 2015. Portland, Oregon, USA. [oral presentation by **Stela H. Seo**]

Stela H. Seo, Kazuki Takashima, Jim Young, Yoshifumi Kitamura. "Alerting users by animating content on a transforming tabletop interface," *Human Interface Symposium, HIS*, September 2014. Kyoto, Japan. [oral presentation by **Stela H. Seo**]

Ashish Singh, **Stela H. Seo**, Yasmeen Hashish, Masayuki Nakane, James E. Young, Andrea Bunt. "An interface for remote robotic manipulator control that reduces task load and fatigue," *IEEE International Symposium on Robot and Human Interactive Communication, RO-MAN*, August 2013. Gyeongju, Republic of Korea. [oral presentation by **Stela H. Seo**]

Jacky Baltes, **Stela Seo**, Chi Tai Cheng, M.C. Lau, John Anderson. "Learning of facial gestures using SVMs," *Next Wave in Robotics: Communications in Computer and Information Science*, vol. 212, pp. 147-154, 2011. Springer.

Peer Reviewed Conference Extended Abstracts, Posters, Videos, Workshops

Stela H. Seo, James E. Young. "Picassnake: robot performance art," *ACM/IEEE International Conference on Human-Robot Interaction, Video Presentations*, March 2017. Vienna, Austria.

Denise Geiskkovitch, **Stela H. Seo**, James E. Young. "Autonomy, embodiment, and obedience to robots," *ACM/IEEE International Conference on Human-Robot Interaction, HRI Pioneers Workshop*, March 2015. Portland, Oregon, USA.

Stela H. Seo, James E. Young, Andrea Bunt. "Exploring the role of affect recognition in web-capable applications," *Graphics Interface Conference, Poster Session*, May 2013. Regina, Saskatchewan, Canada.

Non-peer Reviewed Publications

Stela H. Seo, James E. Young, and Andrea Bunt. "Exploring user attitudes toward affect recognition in web-capable applications," *Technical Report*, 2012. University of Manitoba.

ACADEMIC SERVICE

Conference Chair

Virtual/Hybrid conference co-chair at *Human-Robot Interaction* (HRI 2022)

Publicity co-chair at *Human-Agent Interaction* (HAI 2019)

Student volunteer co-chair at *Human-Robot Interaction* (HRI 2017)

Web chair at Next Generation Human-Agent Interaction, Human-Agent Interaction (NGHAI 2016, 2017)

Conference Paper Peer Review

ACM/IEEE Human-Robot Interaction (HRI 2016, 2017, 2018, 2019, 2020)

IEEE Robots and Human Interactive Communications (RO-MAN 2015, 2016, 2017, 2018, 2020, 2021)

ACM User Interface Software and Technology (UIST 2019)

ACM Human-Agent Interaction (HAI 2017, 2018, 2019, 2021)

ACM Tangible Embedded and Embodied Interaction (TEI 2016, 2019, 2020)

Graphics Interface (GI 2015, 2019)

ACM Human Factors in Computing Systems (CHI 2017)

ACM Conference and Exhibition on Computer Graphics & Interactive Techniques in Asia (SIGGRAPH 2019)

ACM Spatial User Interaction (SUI 2014, 2016)

IEEE 3D User Interfaces (3DUI 2017)

Advances in Computer Entertainment Technology (ACE 2017)

Journal Paper Peer Review

ACM Transactions on Human-Robot Interaction (THRI 2019, 2020)

Frontiers in Robotics and AI, section Human-Robot Interaction (Frontiers 2019)

Outreach Staff

"Picassnake: robot performance art," *Science Rendezvous*, 2016, Manitoba, Canada.

Technical Consultant

Seema Goel. "To Move As One," *Art Gallery of Southwestern Manitoba*, 2016. Brandon, Manitoba, Canada

Media Attention

Stela H. Seo. "Would you feel sorry for a simulated robot? Study shows people empathize more with the real thing," *Robohub (http://robohub.org)*, 2015.

EDUCATION

09/2015–04/2021 PH.D., UNIVERSITY OF MANITOBA, CANADA
Human-Robot Interaction, Department of Computer Science, advisor: James E. Young
"Novel egocentric robot teleoperation interfaces for search and rescue"
[thesis defense on April 23, 2021 & convocation on October 21, 2021]

09/2012–01/2015 M.SC., UNIVERSITY OF MANITOBA, CANADA
Human-Robot Interaction, Department of Computer Science, advisor: James E. Young
"A Simulated Robot versus a Real Robot: An Exploration of How Robot Embodiment Impacts People's Empathic Responses"
[thesis defense on January 14, 2015 & convocation on May 26, 2015]

09/2006–08/2012 B.C.SC. HONS., UNIVERSITY OF MANITOBA, CANADA
Department of Computer Science
specializations: Artificial Intelligence, Databases, Software Engineering
[program complete on August 18, 2012 & convocation on October 17, 2012]

RESEARCH EXPERIENCE

09/2012–04/2021 RESEARCH ASSISTANT (M.SC. & PH.D.)
Human-Robot Interaction Lab, Department of Computer Science, University of Manitoba
supervisor: James E. Young

05/2014–09/2014 RESEARCH ASSISTANT (INTERNSHIP ABROAD)
Interactive Content Design Lab, Research Institute of Electrical Communication, Tohoku University
supervisor: Yoshifumi Kitamura, James E. Young, and Kazuki Takashima

01/2014–06/2014 RESEARCH ASSISTANT (INDUSTRIAL COLLABORATION)
09/2012–02/2013 Human-Robot Interaction Lab, Department of Computer Science, University of Manitoba
Inuktun Services Ltd., British Columbia, Canada
supervisor: James E. Young

05/2012–08/2012 RESEARCH ASSISTANT
Human-Robot Interaction Lab, Department of Computer Science, University of Manitoba
supervisor: James E. Young and Andrea Bunt

01/2012–04/2012 UNDERGRADUATE HONOURS PROJECT
Human-Robot Interaction Lab, Department of Computer Science, University of Manitoba
supervisor: James E. Young

09/2011–12/2011 RESEARCH ASSISTANT (CO-OP WORK TERM)
Human-Robot Interaction Lab, Department of Computer Science, University of Manitoba
supervisor: James E. Young and Andrea Bunt

04/2009–08/2011 RESEARCH ASSISTANT
Autonomous Agents Lab, Department of Computer Science, University of Manitoba
supervisor: John Anderson and Jacky Baltes

01/2010–04/2010 RESEARCH ASSISTANT (CO-OP WORK TERM)
Computational Discrete Mathematics Lab, Department of Computer Science, University of Manitoba
supervisor: John van Rees

TEACHING EXPERIENCE

01/2018–04/2018 SESSIONAL INSTRUCTOR (COMP2160 PROGRAMMING PRACTICES)
Computer Science, University of Manitoba
course director: **Stela H. Seo**

09/2017–12/2017 SESSIONAL INSTRUCTOR (COMP2160 PROGRAMMING PRACTICES)
Computer Science, University of Manitoba
course director: Yang Wang

Teaching Assistant in Department of Computer Science, University of Manitoba

COMP1010 INTRODUCTION TO COMPUTER SCIENCE (S15 YOUNG)
COMP1260 COMPUTER USAGE I (F12 PENNER)

COMP2140	DATA STRUCTURES AND ALGORITHMS (F11 DUROCHER)
COMP2160	PROGRAMMING PRACTICES (W15 COOPER, F14 BOYER & COOPER, F13 ZAPP & BRAICO, F11 BRAICO)
COMP3010	DISTRIBUTED COMPUTING (S12 BRAICO)
COMP3020	HUMAN-COMPUTER INTERACTION I (F13 YOUNG)
COMP3350	SOFTWARE ENGINEERING I (W13 BRAICO)
COMP3430	OPERATING SYSTEMS (S17 YOUNG, W16 BRAICO, W15 BOYER, W14 YOUNG, W13 YOUNG, W12 GRAHAM)
COMP3490	COMPUTER GRAPHICS I (F20 YOUNG)
COMP4020	HUMAN-COMPUTER INTERACTION II (W20 YOUNG)
COMP4180	INTELLIGENT MOBILE ROBOTICS (F11 BALTES)
COMP4360	MACHINE LEARNING (W12 BALTES)

INDUSTRY EXPERIENCE

05/2011–08/2011	SOFTWARE DEVELOPER (CO-OP WORK TERM) Taibotics, Kaohsiung, Taiwan
09/2010–05/2011	WEB APPLICATION DEVELOPER Manitoba Centre of Health Policy, University of Manitoba
02/2009–06/2009	JAPANESE LANGUAGE TUTOR Manitoba Japanese Canadian Cultural Centre

AWARDS

Academic Awards (All values are quoted in Canadian Dollars)

09/2018–08/2019	ALEXANDER GRAHAM BELL CANADA GRADUATE SCHOLARSHIP-DOCTORAL (CGS-D), $35,000 PER YEAR Natural Sciences and Engineering Research Council of Canada national, academic
09/2016–08/2018	POSTGRADUATE SCHOLARSHIPS-DOCTORAL (PGS-D), $21,000 PER YEAR Natural Sciences and Engineering Research Council of Canada national, academic [*converted to NSERC CGS-D*]
09/2015–08/2019	CS ENTRANCE AWARD, $80,000 (REDUCED TO $39,500 DUE TO THE FUNDING LIMIT) Department of Computer Science, University of Manitoba institutional, academic
09/2015–08/2016	UNIVERSITY OF MANITOBA GRADUATE FELLOWSHIP (UMGF), $18,000 PER YEAR Faculty of Graduate Studies, University of Manitoba institutional, academic [*discontinued after receiving NSERC PGS-D*]
09/2012–08/2014	CS ENTRANCE AWARD, $32,000 Department of Computer Science, University of Manitoba institutional, academic
2009, 2011	DEAN'S HONOUR LIST Faculty of Science, University of Manitoba institutional, academic

International Competitions

05/2016	ROBOTART COMPETITION (TEAM 6TH PLACE) USING PICASSNAKE, $5,000 USD RobotArt Organization (http://robotart.org)
08/2011	MARATHON (TEAM 2ND PLACE) USING DARWIN HuroCup – Humanoid Robot Competition Federation of International Robot-soccer Association (FIRA) Competition, Kaohsiung, Taiwan
10/2010	CHAMPION AWARD (TEAM 1ST PLACE) Humanoid Robot Explorer Competition International Group Micro-mouse & Robot Contest, Southern Taiwan University, TaiNan, Taiwan

Student Volunteering Awards (All values are quoted in Canadian Dollars)

03/2015	HRI 2015	$650.00
08/2013	ROMAN 2013	$450.00

Travel Awards/Supports (All values are quoted in Canadian Dollars)

08/2017	ROMAN 2017	$1000.00	Faculty of Graduate Studies, University of Manitoba
08/2017	ROMAN 2017	$700.00	Department of Computer Science & Faculty of Science, University of Manitoba
08/2017	ROMAN 2017	$750.00	Graduate Student Association, University of Manitoba
03/2017	HRI 2017	$700.00	Department of Computer Science & Faculty of Science, University of Manitoba
10/2015	HAI 2015	$1000.00	Faculty of Graduate Studies, University of Manitoba
10/2015	HAI 2015	$700.00	Department of Computer Science & Faculty of Science, University of Manitoba
10/2015	HAI 2015	$705.92	Graduate Student Association, University of Manitoba
03/2015	HRI 2015	$750.00	Faculty of Graduate Studies, University of Manitoba
03/2015	HRI 2015	$700.00	Department of Computer Science & Faculty of Science, University of Manitoba
03/2015	HRI 2015	$392.69	Graduate Student Association, University of Manitoba
09/2014	HIS 2014	$700.00	Department of Computer Science & Faculty of Science, University of Manitoba
09/2014	HIS 2014	$650.00	Research Institute of Electrical Communication, Tohoku University
08/2013	ROMAN 2013	$700.00	Department of Computer Science & Faculty of Science, University of Manitoba
08/2013	ROMAN 2013	$325.00	Graduate Student Association, University of Manitoba
05/2013	GI 2013	$500.00	Department of Computer Science & Faculty of Science, University of Manitoba

LANGUAGES

Korean	native
English	fluent conversational, reading, and writing
Japanese	fluent conversational, advanced reading, and intermediate writing

PERSONAL

interest in developing programs, video games, Japanese animations, building a plastic model, photography, Rubik's cubes, puzzles, Sudoku, learning instruments (harmonica, guitar, piano)

Kyoto, Japan. (September 29, 2021)