

DANIEL J. REA

Computer Science
djrea.ca
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EDUCATION

- 2015 – PhD, Computer Science, University of Manitoba, GPA 4.5/4.5 (est. grad. Summer 2019)
Thesis: Video Game Inspired Telerobotics Interfaces: Learning from virtual designs for a physical world
- 2012 – 2014 MSc, Computer Science, University of Manitoba, GPA 4.4/4.5
Thesis: PaintBoard – Prototyping Interactive Character Behaviors by Digitally Painting Storyboards
- 2006 – 2012 BSc Computer Science, Honours Co-Op Program, University of Manitoba, GPA 4.3/4.5

AWARDS

- 2015 – 2018 NSERC Postgraduate Scholarship (CGS-D), \$105 000, (national, academic)
- 2015 – 2019 Gordon Wu Scholarship, \$55 000 (institutional, academic)
- 2015 – 2019 Guaranteed Funding Package, \$84 000 (departmental, academic, declined)
- 2012 NSERC Postgraduate Scholarship (CGS-M), \$17 500 (national, academic)
- 2012 University of Manitoba Tri-Council Master’s Supplement Award, \$21 000 (institutional, academic)
- 2013 Japan Society for the Promotion of Science Summer Program, \$5 500 (national, academic)
- 2013 NSERC Michael Smith Foreign Studies Supplement (MS-FSS), \$6 000 (national, academic)
- 2012 – 2018 Institutional and international conference travel grants totaling \$12 100

FULL-PAPER REFEREED CONFERENCE PUBLICATIONS

- [C14] DANIEL J. REA, James E. Young. “Backseat Teleoperator: affective feedback with on-screen agents to influence teleoperation.” ACM/IEEE International Conference on Human-Robot Interaction (HRI ‘19), ACM/IEEE. 2019. (to appear, 24% acceptance rate)
- [C13] Raquel Thiessen, DANIEL J. REA, James E. Young. “Infrasound for HRI: A Robot Using Low-Frequency Vibrations to Impact How People Perceive its Actions.” ACM/IEEE International Conference on Human-Robot Interaction (HRI ‘19), ACM/IEEE. 2019. (to appear, 24% acceptance rate)
- [C12] DANIEL J. REA, James E. Young. “It’s All in Your Head: using priming to shape an operator’s perceptions and behavior during teleoperation.” ACM/IEEE International Conference on Human-Robot Interaction (HRI ‘18), ACM/IEEE. 2018. (23% acceptance rate)
- [C11] DANIEL J. REA, Mahdi Rahmani, Neil Bruce, James E. Young. “Tortoise and the Hare Robot: Slow and steady almost wins the race, but finishes more safely.” IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN ‘17), IEEE. 2017.
- [C10] 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.” International Symposium on Robot and Human Interactive Communication (RO-MAN ‘17), IEEE. 2017.
- [C9] DANIEL J. REA, Stela H. Seo, Neil Bruce, James E. Young. “Movers, Shakers, and Those Who Stand Still: Visual attention-grabbing techniques in robot tele-operation.” ACM/IEEE International Conference on Human-Robot Interaction (HRI ‘17), ACM/IEEE. 2017. (24% acceptance rate)

- [C8] DANIEL J. REA, Denise Geiskkovitch, James E. Young. “Wizard of Awwws: Exploring Psychological Impact on the Researchers in Social HRI Experiments.” alt.HRI track, ACM/IEEE International Conference on Human-Robot Interaction (alt.HRI’17), ACM/IEEE. 2017. (21% acceptance rate)
- [C7] Roberta Cabral Ramos Mota, DANIEL J. REA, Anna Le Tran, James E. Young, Ehud Sharlin, Mario Costa Sousa. “Playing the ‘Trust Game’ with Robots: Social Strategies and Experiences.” IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN’16), IEEE. 2016.
- [C6] Nico Li, DANIEL J. REA, James E. Young, Ehud Sharlin, Mario Costa Sousa. “And He Built a Crooked Camera: A Mobile Visualization Tool to View Four-dimensional Geometric Objects.” ACM SIGGRAPH Asia ’15 – Symposium on Mobile Graphics and Interactive Applications, ACM. 2015.
- [C5] DANIEL J. REA, Yan Wang, James E. Young. “Check Your Stereotypes at the Door: An Analysis of Gender Typecasts in Social Human-Robot Interaction.” International Conference on Social Robotics (ICSR’15), Springer. 2015.
- [C4] Amy Banh, DANIEL J. REA, James E. Young, Ehud Sharlin. “Inspector Baxter: The Social Aspects of Integrating a Robot As a Quality Inspector in an Assembly Line.” ACM International Conference on Human-Agent Interaction (HAI’15), ACM. 2015.
- [C3] DANIEL J. REA, Takeo Igarashi, James E. Young. “PaintBoard – Prototyping Interactive Character Behaviors by Digitally Painting Storyboards.” ACM International Conference on Human-Agent Interaction (HAI’14), ACM. 2014. **Best Paper Award.**
- [C2] Barrett Ens, DANIEL REA, Roiy Shpaner, Hadi Hemmati, James E. Young, Pourang Irani. “ChronoTwigger: A Visual Analytics Tool for Understanding Source and Test Co-Evolution.” IEEE International Conference on Software Visualization (VISVIZ’14), IEEE. 2014.
- [C1] Tetsushi Ikeda, Yoshihiro Chigodo, DANIEL REA, Francesco Zanlungo, Masahiro Shiomi, Takayuki Kanda. “Modeling and Prediction of Pedestrian Behavior based on the Sub-goal Concept.” International Conference on Robotics: Science and Systems (RSS’12). 2012.

REFEREED EXTENDED ABSTRACT AND POSTER CONFERENCE PUBLICATIONS

- [P6] DANIEL J. REA, James E. Young, “Methods and Effects of Priming a Teloperator’s Perception of Robot Capabilities” ACM International HRI Pioneers Workshop, ACM. 2019. (31% acceptance rate)
- [P5] Patrick Dubois, DANIEL J. REA, Kevin Hoang, Meghan Chua, Danielle King, Corey King, James E. Young, Andrea Bunt, “Conveyor: A Dual-Task Paradigm for Studying VR Dialogue Interfaces.” ACM Graphics Interfaces (GI’18), ACM. 2018. **Best Poster Award.**
- [P4] Shelly Levy-Tzedek, Sigal Berman, Yehuda Stiefel, Ehud Sharlin, James E. Young, DANIEL J. REA. “Robotic Mirror Game for movement rehabilitation.” IEEE International Conference on Virtual Rehabilitation (ICVR), IEEE. 2017.
- [P3] Johann Wentzel, DANIEL J. REA, James E. Young, Ehud Sharlin. “Shared Presence and Collaboration Using a Co-Located Humanoid Robot.” ACM International Conference on Human-Agent Interaction (HAI’15), ACM. 2015.
- [P2] DANIEL J. REA, Takeo Igarashi, James E. Young. “Behavior Primitives for End-User NPC Behavior Creation.” Conference on Human-Agent Interaction (HAI’13). 2013. **Best Poster Runner-up.**
- [P1] DANIEL J. REA, James E. Young, and Pourang Irani. “The Roomba Mood Ring: an Ambient-Display Robot.” ACM/IEEE International Conference on Human-Robot Interaction (HRI’12), ACM/IEEE. 2012.

SERVICE

Institutional, University of Manitoba

- 2017 – 2019 Department of Computer Science Hiring Committee (student member)
- 2016 Department of Computer Science Graduate Studies Committee (student member)

Program Committee Member

- 2017 – 2018 ACM International Conference on Human-Agent Interaction
- 2015 – 2017 Advances in Computing Entertainment

Organizing Committee Member

- 2019 ACM Conference on Human-Agent Interaction (HAI): Poster Co-Chair
- 2019 ACM Conference on Human-Agent Interaction (HAI): Web Co-Chair
- 2018 ACM/IEEE Conference on Human-Robot Interaction (HRI): Communication Chair
- 2016 ACM/IEEE Conference on Human-Robot Interaction (HRI): Web Chair
- 2014 – 2016 ACM Conference on Human-Agent Interaction (HAI): Web Chair
- 2012 Vice President Competitions of the International Computer Science Games

Reviewing

- Conferences: ~10 manuscripts total per year
 - IEEE: RO-MAN, ICRA, 3D-UI
 - ACM: CHI, GI, HRI, HAI, IUI, TEI
 - Other: ACE
- Journals: IJHCS, IJHCI, RAS

TEACHING

- Sep '18 – Dec '18 Instructor: Introduction to Computer Science (COMP 1010)
- Sep '12 – Dec '12 Teaching Assistant: Introduction to Computer Programming (COMP 1010)
- Jan '12 – Apr '12
- Sep '11 – Dec '11
- Sep '18 – Dec '18 Teaching Assistant: Human-Computer Interaction (COMP 3020)
- Sep '16 – Dec '16
- Jan '18 – Apr '18 Teaching Assistant: Human-Computer Interaction 2 (COMP 4020)
- Jan '17 – Apr '17 Teaching Assistant: Operating Systems (COMP 3430)

UNDERGRADUATE CO-SUPERVISION

- May '18 Raquel Thiessen. Infrasound for HRI: A Robot Using Low-Frequency Vibrations to Impact How People Perceive its Actions (co-supervised by Dr. Young) [C13]
- May '18 – Dec '18 Lorena Gonzales. The Effects on Sound Level on Teleoperation Behavior (co-supervised by Dr. Young)
- Sep '14 – Apr '15 Amy Banh. Inspector Baxter: The Social Aspects of Integrating a Robot As a Quality Inspector in an Assembly Line. (co-supervised by Dr. Sharlin) [C4]
- Sep '14 – Apr '15 Johann Wentzel. Shared Presence and Collaboration Using a Co-Located Humanoid Rob (co-supervised by Dr. Sharlin) [P4]

WORK EXPERIENCE

- May '11 – Present University of Manitoba, Canada
- Research Associate (Dr. James E Young)*
 - PhD student under Dr. James E. Young (from September 2015) [C9] – [C14], [P5], [P6]
 - MSc student under Dr. James E. Young (from September 2012) [C3], [P2]

Sep '14 – Dec '14

University of Calgary, Canada

Visiting Researcher (Dr. Ehud Sharlin)

Successfully contributed to multiple research projects on HRI and HCI.

Co-supervised undergraduate research projects

[C4], [C6], [C7], [P3], [P4]

Jan '13 – Aug '13

University of Tokyo – Igarashi Lab (JST ERATO), Japan

Visiting Researcher (Dr. Takeo Igarashi)

Researching user-focused interfaces for artist creation of interactive behaviours for autonomous agents.

Created, presented and marked the term project for a 4th year Human-Computer Interaction course.

[C3], [P2]

May '10 – May '11

Advanced Telecommunications Institute International (ATR), Japan

Research Intern (Dr. Takayuki Kanda, Dr. Francesco Zanlungo)

Developed and published a new algorithm for predicting pedestrian motion in complex environments.

Researched and studied unsupervised learning algorithms, pedestrian modeling, and research methodologies.

[C1]

September '09 – December '09

Communications Research Centre, Canada

Network Researcher, Co-op Work Term (Dr. Mathieu Couture)

Created programs that dynamically adjusted routing tables to trick malware into revealing how they work.

January '09 – April '09

Public Health Agency of Canada (CNPHI Team), Canada

Software Developer, Co-op Work Term

Created a statistics generating program that graphed information generically from dozens of applications.

INVITED TALKS

2015 Papers We Love, SkullSpace Winnipeg – PaintBoard – Prototyping Interactive Character Behaviours by Digitally Painting Storyboards

2014 University of Calgary: PaintBoard – Prototyping Interactive Character Behaviours by Digitally Painting Storyboards

INTERESTS

Cycling, rock climbing

Japanese language and culture:

Con conversationally fluent; Japanese Language Proficiency Test (JLPT) Level 2 / 日本語能力試験 N2

Play Shogi, Go

Japanese cooking

Video game development

Music: clarinet, baritone sax, bass guitar, singing bass, and swing dancing

REFERENCES

Dr. Neil Bruce, Assistant Professor, Ryerson University
bruce@ryerson.ca
Relation: PhD Thesis Committee Member, Co-publisher

Dr. Andrea Bunt, Associate Professor, University of Manitoba
bunt@cs.umanitoba.ca
Relation: MSc Thesis Committee Member, Co-publisher

Dr. Ehud Sharlin, Associate Professor, University of Calgary
ehud@cpsc.ucalgary.ca
Relation: Research Internship Supervisor, Co-publisher

Dr. James Young, Associate Professor, University of Manitoba
young@cs.umanitoba.ca
Relation: MSc, PhD Supervisor

Last Updated Dec. 19th, 2018