

# Elisa Kwon

University of California, Berkeley  
Berkeley, CA 94720

elisa.kwon@berkeley.edu

## Education

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<b>University of California, Berkeley</b> <i>Ph.D. in Mechanical Engineering</i>	Aug 2020 – Present Berkeley, CA, USA
<b>University of Toronto</b> <i>M.A.Sc. in Mechanical Engineering</i>	Sept 2017 – Aug 2019 Toronto, ON, CA
<b>University of Toronto</b> <i>B.A.Sc. in Engineering Science</i>	Sept 2012 – Aug 2017 Toronto, ON, CA

## Research Experience

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<b>University of California, Berkeley</b> <i>Graduate student researcher</i> <ul style="list-style-type: none"><li>• Investigating human behavior and cognition during the design process</li><li>• Conducting behavioral human-subject studies</li><li>• Advisor: Dr. Kosa Goucher-Lambert</li><li>• Ph.D. Qualifying Exam passed and candidacy achieved (Sept 2022)</li></ul>	Aug 2020 – Present Berkeley, CA, USA
<b>Rotman Research Institute</b> <i>Research assistant</i> <ul style="list-style-type: none"><li>• Analyzing eye-tracking data using statistical analysis methods</li><li>• Constructing interactive plots to support data visualization and exploration</li></ul>	March 2020 – Aug 2021 Toronto, ON, CA
<b>University of Toronto</b> <i>Research assistant</i> <ul style="list-style-type: none"><li>• Designing and executing studies testing creative task performance</li><li>• Developing methods to support concept generation</li><li>• Thesis: <i>Methods towards enhancing divergent thinking in conceptual design</i></li><li>• Advisor: Dr. L.H. Shu</li></ul>	Sept 2017 – Aug 2019 Toronto, ON, CA

## Teaching Experience

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<b>University of California, Berkeley</b> <i>MEng capstone project mentor</i> <ul style="list-style-type: none"><li>• Masters of Engineering (ME) Students (Fall 2023-present)</li><li>• Project: Next Generation Design Systems (Visual Creativity)</li></ul> <i>Graduate student instructor</i> <ul style="list-style-type: none"><li>• Design Methodology (Spring 2021)</li><li>• Human-Centered Design Methods (Fall 2021, 2022)</li></ul>	Jan 2021 – Present Berkeley, CA, USA
<b>University of Toronto</b> <i>Head teaching assistant</i> <ul style="list-style-type: none"><li>• Design of Innovative Products (Fall 2017, 2018)</li></ul>	Sept 2017 – Dec 2018 Toronto, ON, CA

## Other Experience

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<b>Research and Development Intern</b> <i>Litostroj Power (Hydropower equipment manufacturing)</i>	Aug 2016 <i>Ljubljana, Slovenia</i>
<b>Data Science Intern</b> <i>Sysomos (Social media data analytics)</i>	May 2016 – July 2016 <i>Toronto, ON, CA</i>
<b>Business Analyst</b> <i>Environment and Climate Change Canada</i>	May 2014 – Aug 2015 <i>Toronto, ON, CA</i>

## Publications

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### Journal Articles

- Kwon, E.,** Goucher-Lambert, K. (2023) Comparing and evaluating human and computationally derived representations of non-semantic design information. *Journal of Mechanical Design*. (Accepted)
- Kwon, E.,** Rao, V., Goucher-Lambert, K. (2023) Understanding inspiration: Insights into how designers search for, discover, and use inspirational stimuli. *Design Studies*, 88, 101202. doi.org/10.1016/j.destud.2023.101202
- Kwon, E.,** Huang, F., Goucher-Lambert, K. (2022) Enabling multi-modal search for inspirational design stimuli using deep learning. *AI EDAM*, 36, E22. doi:10.1017/S0890060422000130
- Kwon, E.,** Ryan, J.D., Bazylak, A., Shu, L.H. (2020) Does visual fixation affect idea fixation? *Journal of Mechanical Design*, 142(3), 031118. doi:10.1115/1.4045600
- Kwon, E.,** Pehlken, A., Thoben, K-D., Bazylak, A., Shu, L.H. (2019) Visual similarity to aid alternative-use concept generation for retired wind-turbine blades. *Journal of Mechanical Design*, 141(3), 031106. doi:10.1115/1.4042336

### Peer-reviewed Conference Papers

- Kwon, E.,** Goucher-Lambert, K. (2023) Similarities and differences in human vs. computational representations of non-semantic inspirational design stimuli. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. Boston, MA. August 20-23, 2023.
- Kwon, E.,** Goucher-Lambert, K. (2022) Examining the boundary between near and far design stimuli. Proceedings of the Design Society: 24th International Conference on Engineering Design. Bordeaux, France. July 24-28, 2023.
- Kwon, E.,** Rao, V., Goucher-Lambert, K. (2022) Investigating the roles of expertise and modality in designers' search for inspirational stimuli. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. St. Louis, MO. August 14-17, 2022.
- Kwon, E.,** Rao, V., Goucher-Lambert, K. (2022) Exploring designers' encounters with unexpected inspirational stimuli. Design Computing and Cognition'22. Glasgow, Scotland, UK. July 4-6, 2022.
- Rao, V., **Kwon, E.,** Goucher-Lambert, K. (2022) Like a Moodboard, but more interactive - The role of expertise in designers' mental models and speculations on an intelligent design assistant. Design Computing and Cognition'22. Glasgow, Scotland, UK. July 4-6, 2022.

**Kwon, E., Huang, F., Goucher-Lambert, K. (2021)** Multi-modal search for inspirational examples in design. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. Virtual, Online. August 17-19, 2021.

**Kwon, E., Ryan, J.D., Bazylak, A., Shu, L.H. (2019)** Does visual fixation affect idea fixation? ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. Anaheim, CA. August 18-21, 2019.

**Kwon, E., Pehlken, A., Thoben, K-D., Bazylak, A., Shu, L.H. (2018)** Visual similarity to aid alternative-use concept generation for retired wind-turbine blades. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference. Quebec City, Quebec, Canada. August 26-29, 2018.

### Poster presentations

**Kwon, E., Goucher-Lambert, K. (2023)** Using neuroimaging to enhance data-driven engineering design tools. Meeting of the Society for the Neuroscience of Creativity. San Francisco, CA. March 23, 2023.

**Kwon, E., Kacollja, A., Shahmiri, E., Ryan, J.D., Shen, K. (2021)** Alterations in oculomotor behavior in healthy aging and mild cognitive impairment. *Journal of Vision* 2021, 21(9), 2735. (Presented at Annual Meeting of the Vision Sciences Society) doi.org/10.1167/jov.21.9.2735

**Kwon, E., Ryan, J.D., Bazylak, A., Shu, L.H. (2019)** Does visual fixation affect idea fixation? 2019 University of Toronto Mechanical & Industrial Engineering Research Symposium. Toronto, ON. June 2019.

**Kwon, E., Bazylak, A., Shu, L.H. (2018)** Visual similarity to aid alternative-use concept generation for retired wind-turbine blades. 2018 University of Toronto Mechanical & Industrial Engineering Research Symposium. Toronto, ON. June 2018. **(Best poster award)**

### Awards, Honors, & Certificates

<b>NSERC Postgraduate Scholarship (PGS-D)</b> <i>National award (CGS-D declined for postgraduate studies outside Canada)</i>	2021-2024
<b>Certificate in Remote Instruction</b> <i>Awarded for completion of Graduate Remote Instruction Innovation Fellows Program, UC Berkeley</i>	2020
<b>Ontario Graduate Scholarship</b> <i>Provincial award for graduate studies</i>	2018
<b>Best poster presentation award</b> <i>Departmental award at the University of Toronto</i>	2018

### Service & Outreach

#### Leadership

<b>Student organization officer</b> <i>Mechanical Engineering Graduate Student Council, UC Berkeley</i> <ul style="list-style-type: none"> <li>• Mentorship program: facilitating mentorship between incoming and continuing graduate students</li> <li>• Social committee: planning departmental events for ME graduate students</li> </ul>	2023-present
<b>Student organization president</b> <i>Counterpoint, University of Toronto</i>	2014-2019

## Outreach

### Research intern mentor

2023

*Transfer-to-Excellence program, UC Berkeley*

- Summer research internship for community college students
- Student: Isaac Hernandez (Mechanical Engineering), MiraCosta College

### Course instructor

2023

*Splash at Berkeley*

- High school educational outreach program, UC Berkeley
- Course: Creative + Sustainable Product Design: Making and Breaking

## Service

### Panelist

2023

*Design Scholars Graduate Student Panel, UC Berkeley*

### Student Committee Member

2022

*Mechanical Engineering Faculty Search, UC Berkeley*