
EDUCATION	University of California, San Diego April 2020 PhD, Computer Science Thesis: <i>Contextually Recommending Expert Help and Demonstrations to Improve Creativity</i> Advisor: Scott Klemmer Committee: Mira Dontcheva, Jim Hollan, Philip Guo, Bill Griswold, Björn Hartmann
	University of California, San Diego Dec 2016 M.S., Computer Science GPA: 3.77/4.0
	University of Toronto, Victoria College June 2013 Honours B.Sc. with High Distinction, Specialist in Math & Computer Science, Major in Music GPA: 3.94/4.0
RESEARCH POSITIONS	PhD Researcher, The Design Lab, UCSD Oct 2014 – Mar 2020 Worked under the supervision of Scott Klemmer: <ul style="list-style-type: none">Explored techniques and building tools for supporting creativity by harvesting existing expert content and recommending relevant examples to people in the context of their work Previously under the supervision of Nadir Weibel: <ul style="list-style-type: none">Studied the processes of communication and uses of technology in radiation oncology, identified areas and proposed next steps for technological improvement
	Creative Intelligence Lab Intern, Adobe Systems Inc. Jun – Sept 2019 Worked under the supervision of Mira Dontcheva: <ul style="list-style-type: none">Studied techniques for improving navigation of creative live stream videos
	Creative Intelligence Lab Intern, Adobe Systems Inc. Jun – Sept 2017 Worked under the supervision of Mira Dontcheva: <ul style="list-style-type: none">Studied techniques for embedding expert software videos in the creative process
	User Interface Research Intern, Autodesk Inc. Jun – Sept 2016 Worked under the supervision of Tovi Grossman: <ul style="list-style-type: none">Studied team collaboration on physical tasks, developed and evaluated a system to improve task distribution and instruction display
	Creative Technologies Lab Intern, Adobe Systems Inc. Jun – Sept 2015 Worked under the supervision of Mira Dontcheva and Holger Winnemöller: <ul style="list-style-type: none">Developed and evaluated a suggestion tool to help novice users get started in complex software, in collaboration with Scott Klemmer at UCSD
	PhD Researcher, Graphics and Vision group, UCSD Jan – Mar 2015 Worked under the supervision of Ravi Ramamoorthi: <ul style="list-style-type: none">Studied interactive real-time BRDF editing, wrote a program to render objects under environment lighting and edit reflectance properties using interactive brushes
	Research Assistant, DGP Lab, University of Toronto Sept 2013 – May 2014 Worked under the supervision of Kyros Kutulakos on a project in Computer Vision: <ul style="list-style-type: none">Studied BRDF acquisition and visual texture analysis, extended existing “primal-dual coding” camera system to isolate light transport based on direction and distance of travel
	Individual Research Project Course, University of Toronto Sept – Dec 2012 Worked under the supervision of Karen Reid: <ul style="list-style-type: none">Evaluated benefits of a Python memory visualizer, added sorting-by-patterns functionality to the CRS used in introductory CS classes for real-time analysis of student submissions

- PUBLICATIONS**
- C. Ailie Fraser**, Joy Kim, Valentina Shin, Joel Brandt, and Mira Dontcheva. 2020. Temporal Segmentation of Creative Live Streams. To appear in *Proceedings of CHI '20*.
- C. Ailie Fraser**, Mira Dontcheva, Joy Kim, and Scott Klemmer. How Live Streaming Does (and Doesn't) Change Creative Practices. 2020. *interactions Jan/Feb 2020*.
- C. Ailie Fraser**, Joy Kim, Alison Thornsberry, Scott Klemmer, and Mira Dontcheva. 2019. Sharing the Studio: How Creative Livestreaming can Inspire, Educate, and Engage. *Proceedings of Creativity & Cognition '19*.
- C. Ailie Fraser**, Tricia J. Ngoon, Mira Dontcheva, and Scott Klemmer. 2019. RePlay: Contextually presenting learning videos across software applications. *Proceedings of CHI '19*.
- Tricia J. Ngoon, **C. Ailie Fraser**, Ariel S. Weingarten, Mira Dontcheva, and Scott Klemmer. 2018. Interactive Guidance Techniques for Improving Creative Feedback. *Proceedings of CHI '18*. Honorable Mention.
- C. Ailie Fraser**, Tovi Grossman, and George Fitzmaurice. 2017. WeBuild: Automatically Distributing Assembly Tasks Among Collocated Workers to Improve Coordination. *Proceedings of CHI '17*.
- C. Ailie Fraser**, Mira Dontcheva, Holger Winnemöller, Sheryl Ehrlich, and Scott Klemmer. 2016. DiscoverySpace: Suggesting Actions in Complex Software. *Proceedings of DIS '16*.
- Catherine M. Hicks, Vineet Pandey, **C. Ailie Fraser**, and Scott R. Klemmer. 2016. Framing Feedback: Choosing Review Environment Features that Support High Quality Peer Assessment. *Proceedings of CHI '16*.
- EXTENDED ABSTRACTS**
- C. Ailie Fraser**, Julia M. Markel, N. James Basa, Mira Dontcheva, and Scott Klemmer. 2019. ReMap: Multimodal Help-Seeking. *UIST '19 Adjunct*.
- C. Ailie Fraser**, Joy Kim, Scott Klemmer, and Mira Dontcheva. 2019. Creative livestreaming: How sharing one's process can inspire, educate, and engage. *CHI '19 Live Streaming Workshop*.
- C. Ailie Fraser**. 2018. The Right Content at the Right Time: Contextual Examples for Just-in-time Creative Learning. *UIST '18 Doctoral Symposium*.
- C. Ailie Fraser**, Mira Dontcheva, and Scott Klemmer. 2018. Software videos: Rich content and learning potential, but a challenge for sensemaking. *CHI '18 Sensemaking Workshop*.
- C. Ailie Fraser**, Tricia J. Ngoon, Ariel S. Weingarten, Mira Dontcheva, and Scott Klemmer. 2017. CritiqueKit: A Mixed-Initiative, Real-Time Interface For Improving Feedback. *UIST '17 Adjunct*.
- C. Ailie Fraser**, Mira Dontcheva, Holger Winnemöller, and Scott Klemmer. 2016. DiscoverySpace: Crowdsourced Suggestions Onboard Novices in Complex Software. *CSCW '16 Companion*.
- Catherine M. Hicks, **C. Ailie Fraser**, Purvi Desai, and Scott Klemmer. 2015. Do numeric ratings impact peer reviewers? *Learning at Scale '15*.

HONOURS AND AWARDS	Award for Excellence in Service/Leadership, CSE Department, UCSD	June 2019
	NSERC Postgraduate Scholarship – Doctoral (PGS-D)	Fall 2017 – Spring 2019
	Adobe Research Fellowship	2017
	Award for Contributions to Diversity, CSE Department, UCSD	June 2016
	Powell Fellowship, CSE Department, UCSD	Fall 2014 – Spring 2017
	NSERC CGS-M offers from UBC and U of T (declined)	April 2014
	Simeon Heman Janes Silver Medal	Spring 2013
	Dean's List	Spring 2010 – 2013
	Prof. William Kingston and Dr. John Kingston Scholarship	Fall 2012
	University of Toronto Scholar	Fall 2011
	Jessie Macpherson Memorial Scholarship	Fall 2011
	William Pearson Scott Scholarship	Fall 2010
	Mary Ellen Carty Residence Scholarship	Fall 2009
TEACHING & MENTORSHIP	Mentor, Early Research Scholars Program, UCSD	Fall 2018 – Spring 2019
	Mentored two undergraduate students in the Computer Science & Engineering department on a research project.	
	Mentor, GradWIC Mentorship Program, CSE Department, UCSD	Fall 2017 – Spring 2019
	Mentored three first-year graduate students in Computer Science & Engineering each year as part of the Graduate Women in Computing mentorship program.	
	Teaching Assistant, UCSD	Fall 2015
	<i>CSE 216 / COGS 230 – Interaction Design Research</i> Managed course website, met with & advised students, moderated discussions, and graded projects.	
OTHER EXPERIENCE	Teaching Assistant, University of Toronto	Winters 2012, 2013
	<i>CSC148 – Introduction to Computer Science</i> Ran weekly labs, graded exams and assignments, held office hours, and proctored exam.	
	Freelance Web Design & Development	Feb 2018 – present
	Designed, built, and continue to manage website for Camp Wabikon (www.wabikon.com)	
	Web Developing Consultant	Nov 2013 – May 2014
	Adapted a series of pitch recognition and memory tasks written in MATLAB to run online, as part of a study on music and language for the Rotman Research Institute at Baycrest	
SERVICE AND LEADERSHIP	Casual Employee, University of Toronto	June 2012 – April 2014
	Web design and content for the Faculty of Arts & Science's "FAStanswers" website for first-year students.	
	Organizing Committee, ACM UIST	2020
	Co-publicity chair for UIST 2020 conference.	
	Organizing Committee, ACM Creativity & Cognition	2019
	Co-website chair for Creativity & Cognition conference. Built & managed website: https://cc.acm.org/2019 .	
	Website Lead, Diversity, Equity & Inclusion Committee, UCSD	Fall 2017 – Winter 2020
	Member of department-wide committee in Computer Science and Engineering, composed of students, faculty, and staff dedicated to highlighting and expanding efforts to improve diversity. Manage content & design for DEI website as well as special event websites.	
	Graduate Women in Computing, UCSD	Fall 2015 – Spring 2019
	Treasurer and Mentorship Committee member 2017-2019, President 2015-2017. GradWIC aims to increase awareness of diversity issues and foster an inclusive CSE community.	

PhD Admissions Student Committee, UCSD**Fall 2017 – Spring 2019**

Co-leader of student committee for PhD admissions in the Computer Science and Engineering department.

The Beat, UCSD**Fall 2014 – Spring 2016**

Assistant Music Director 2015-2016, Section Leader 2014-2015. Directed, sang, and arranged music for The Beat, an award-winning acappella choir.

Member, Introductory Math and Science Committee**Fall 2012 – Spring 2013**

Faculty of Arts & Science, University of Toronto

**COURSEWORK
AND SKILLS****Computer Skills:**

- HTML, Javascript, PHP, CSS, Swift, Python, MATLAB, C++, Java, C, SQL, OpenGL, OpenCV, Adobe Flash and Actionscript, Microsoft Office, Adobe Photoshop, LaTeX

Relevant Coursework:

- *Computer Science*: Research in HCI and Ubiquitous Computing, Information Visualization, Computer Graphics and Vision, Web Programming, Programming Languages, Object-Oriented and Systems Programming
- *Mathematics*: Mathematical Logic, Linear Algebra, Abstract Algebra, Calculus, Real and Complex Analysis