Ailie Fraser

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EDUCATION

University of California, San Diego **Sept 2014 – present**
PhD, Computer Science and Engineering

University of California, San Diego **Dec 2016**
M.S., Computer Science and Engineering
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 **Fall 2014 – present**
Working under the supervision of Scott Klemmer:

- Exploring techniques and building tools for amplifying human creativity with software
- Previously studied peer feedback in online learning environments, helped build and run online experiment to test these effects for graduate school application essays

Previously under the supervision of Nadir Weibel:

- Studied the processes of communication and uses of technology in radiation oncology, identified areas for improvement and proposed next steps to iteratively design and test technological improvements with UCSD Radiation Oncology

User Interface Research Intern, Autodesk Inc. **Jun – Sept 2016**
Worked under the supervision of Tovi Grossman:

- 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:

- Developed and evaluated a suggestion tool to help 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:

- 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:

- 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:

- 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, 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 R. 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, Mira Dontcheva, Holger Winnemöller, and Scott R. Klemmer. 2016. DiscoverySpace: Crowdsourced Suggestions Onboard Novices in Complex Software. *CSCW '16 Companion*. (Demo)

Catherine M. Hicks, **C. Ailie Fraser**, Purvi Desai, and Scott R. Klemmer. 2015. Do numeric ratings impact peer reviewers? *Learning at Scale '15*. (Poster)

HONOURS AND AWARDS

NSERC Postgraduate Scholarship – Doctoral (PGS-D)	**Fall 2017 – Spring 2019**
Adobe Research Fellowship	**2017**
Contributions to Diversity Award, CSE Department, UC San Diego	**June 2016**
Powell Fellowship, CSE Department, UC San Diego	**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 EXPERIENCE

Teaching Assistant, UCSD **Fall 2015**
CSE 216 / COGS 230 – Interaction Design Research
Managed course website, met with & advised students, moderated discussions, grading

Teaching Assistant, University of Toronto **Winters 2012, 2013**
CSC148 – Introduction to Computer Science
Ran weekly labs, graded exams and assignments, held office hours, proctored exam

OTHER EXPERIENCE

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

Casual Employee, University of Toronto **June 2012 – April 2014**
Web design and content for the Faculty of Arts & Science's new "FAStanswers" website for first-years (answers.artsci.utoronto.ca)

SERVICE AND LEADERSHIP

President, Graduate Women in Computing, UCSD **Fall 2015 – present**
Leading our organization's mission to increase awareness of diversity issues and foster an inclusive environment in the CSE community.

Assistant Music Director, The Beat, UCSD **Fall 2015 – Spring 2016**
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, C++, MATLAB, Java, Python, C, SQL, OpenGL, OpenCV, Adobe Flash and Actionscript, Microsoft Office, Adobe Photoshop and InDesign, LaTeX

Relevant Coursework:

- Computer Science: Research in HCI and Ubiquitous Computing, 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