

## Education

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**PhD in Computer Science - HCI - University of Calgary** 2014–2018

*Thesis:* Exploring the Design of Visualizations to Facilitate Patient-Provider Communication (*GPA: 4.0*)

*Supervisors:* [Dr. Sheelagh Carpendale](#) and [Dr. Lora Oehlberg](#)

*Committee:* [Dr. Charles Perin](#) (University of Victoria) and [Dr. Diane Gromala](#) (Simon Fraser University)

**Master in Computer Science - HCI - Australian National University** 2010–2012

*Thesis:* Design and Development of Interface for Different Tablet Sizes

*Supervisors:* [Dr. Tom Gedeon](#) and [Dr. Duncan Stevenson](#)

**Bachelor in Software Engineering - University of Tehran** 2006–2010

*Thesis:* Finding Social Network Graphs in News Websites

*Supervisor:* [Dr. Masoud Asadpour](#)

## Work Experience

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**Postdoctoral Fellow - McGill University, Canada** 2019–present

Working on 1) designing a visualization platform to represent cancer patient pathway and waiting times and 2) developing a Patient-Reported Outcome questionnaire to measure recovery after abdominal surgeries.

*Supervisor:* [Dr. Julio Fiore](#) *Project Leader:* [Dr. Liane Feldman](#)

**Data Visualization Researcher - Alberta Health Services - W21C, Canada** 2015–2018

Worked on an innovative project for designing a care plan for chronic patients, where I conducted literature reviews and field studies to inform the design of data visualizations as part of the care plan.

*Project Leader:* [Dr. William Ghali](#)

**Researcher - Pain Studies Lab, School of Interactive Arts & Technology, Canada** 2014–2015

Collaborated in several research projects on designing technologies for people who live with chronic pain, their pain specialists, and healthcare professionals.

*Supervisor:* [Dr. Diane Gromala](#)

**Junior Web developer - Lexdata, Australia** 2012–2013

Worked as a web developer on designing and developing accessible websites for government organization.

*Manager:* [Michael Hall](#)

**Research Assistance - CSIRO, Australia** Summer Internship 2012

Co-designed a controlled user study to evaluate the use of iPads as a controller in a collaborative setting.

*Supervisor:* [Matt Adcock](#)

## Board Membership

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**Quality Improvement Board - McGill University Health Center, Canada** 2020 - present

As the data scientist on the board, I visually analyze data for quality improvement purposes.

## Publications

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My research is at the intersection of Human-Computer Interaction, Information Visualization, and Health. To increase the impacts of my research, I publish my research in the high impact medical journals and top competitive computer science conferences (with acceptance rate between 20% to 30%).

## Journal Publications (J)

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J3. Maryam Mozafarinia, **Fateme Rajabiyazdi**, Marie-Josée Brouillette, Lesley Fellows, Bärbel Knäuper, Nancy E. Mayo Effectiveness of a Personalized Health Profile on Specificity of Self-Management Goals Among People Living with HIV in Canada: A Protocol for a Blinded Pragmatic Randomized Controlled Trial. *MNI Open Res*, Submitted April 2020.

J2. Charbel El Kefraoui, **Fateme Rajabiyazdi**, Nicole Pecorelli, Franco Carli, Lawrence Lee, Liane S Feldman, and Julio F Fiore Jr. The Duke Activity Status Index (DASI) Predicts Postoperative Complications after Colorectal Surgery. *Surgical endoscopy*, Accepted for Publication on December 6<sup>th</sup> 2019.

J1. Charbel El-Kefraoui, Ghadeer Olleik, Marc-Aurele Chay, Araz Kouyoumdjian, Philip Nguyen-Powanda, **Fateme Rajabiyazdi**, Uyen Do, Alexa Derksen, Tara Landry, Alexandre Amar-Zifkin, Ramanakumar Agnihotram, Marc Martel, Gabriele Baldini, Liane S Feldman, and Julio F Fiore Jr. Opioid Versus Opioid-free Analgesia after Surgical Discharge: Protocol for a Systematic Review and Meta-analysis. *BMJ Open* 2020; 10:e035443. doi: 10.1136/bmjopen-2019-035443. [Link](#).

## Conference Publications (C)

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C8. **Fateme Rajabiyazdi**, Charles Perin, Lora Oehlberg, and Sheelagh Carpendale. Exploring the Design of Patient-Generated Data Visualizations. Accepted for Publication on January 13<sup>th</sup> 2020, In *Proceedings of the 46th Graphics Interface Conference, GI'20*, (12 pages - page numbers to be announced), 2020. [Link](#)

C7. **Fateme Rajabiyazdi**, Charles Perin, Jo Vermeulen, Diane Gromala, and Sheelagh Carpendale. Differences That Matter: In-Clinic Communication Challenges. In *Proceedings of the 2017 Pervasive Computing Technologies for Healthcare*, pages 251-260. ACM, 2017. [DOI](#)

C6. **Fateme Rajabiyazdi**, Charles Perin, Lora Oehlberg, and Sheelagh Carpendale. The Challenges of Individuality to Technology Approaches to Personally Collected Health Data. In *Proceedings of the 2017 Pervasive Computing Technologies for Healthcare*, pages 448-451. ACM, 2017. [DOI](#)

C5. **Fateme Rajabiyazdi**. Designing and Developing Technologies to Facilitate Clinician-Patient Communication. In *Proceedings of the 2016 International Conference on Interactive Surfaces and Spaces*, pages 19-24. ACM, 2016. [DOI](#)

C4. Alice Thudt, Jagoda Walny, Charles Perin, **Fateme Rajabiyazdi**, Lindsay MacDonald, Riane Vardeleon, Saul Greenberg, and Sheelagh Carpendale. Assessing the Readability of Stacked Graphs. In *Proceedings of the 42nd Graphics Interface Conference, GI'16*, pages 167–174, 2016. [DOI](#)

C3. **Fateme Rajabiyazdi**, Jagoda Walny, Carrie Mah, John Brosz, and Sheelagh Carpendale. Understanding Researchers' Use of a Large, High-Resolution Display Across Disciplines. In *Proceedings of the 2015 International Conference on Interactive Tabletops & Surfaces*, pages 107–116. ACM, 2015. [DOI](#)

C2. **Fateme Rajabiyazdi** and Tom Gedeon. Hand Grip Strength on a Large PDA: Holding While Reading Is Different from a Functional Task. In *Proceedings of the 2012 Sixth International Conference on Complex, Intelligent, and Software Intensive Systems*, pages 475–480, 2012. [DOI](#)

C1. **Fateme Rajabiyazdi** and Tom Gedeon. Comparing User Performance on an iPad to a 17-inch BackPad. In *Proceedings of the 2012 Sixth International Conference on Complex, Intelligent, and Software Intensive Systems*, pages 469–474, 2012. [DOI](#)

## Peer Reviewed Abstracts and Posters (AP)

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AP7. **Fateme Rajabiyazdi**, Aditya Pal, Roshni Alam, Joel Montanez, Susan Law, Lawrence Lee, Nicolò Pecorelli, Watanabe Yusuke, Chiavegato D Luciana, Massimo Falconi, Hirano Satoshi, Nancy E Mayo, Liane S Feldman, and Julio F Fiore Jr. What Does ‘Recovery’ Mean To Patients Undergoing Abdominal Surgery? An International Qualitative Study. Accepted for poster presentation at the Society of American Gastrointestinal and Endoscopic Surgeons, Cleveland, OH, USA, 2020.

AP6. Charbel El-Kefraoui, Ghadeer Olleik, Marc-Aurele Chay, Araz Kouyoumdjian, Philip Nguyen-Powanda, **Fateme Rajabiyazdi**, Uyen Do, Alexa Derksen, Tara Landry, Alexandre Amar-Zifkin, Ramanakumar Agnihotram, Marc Martel, Gabriele Baldini, Liane S Feldman, and Julio F Fiore Jr. Opioid Versus Opioid-free Analgesia after Surgical Discharge: a Systematic Review and Meta-analysis. Poster presentation at Experimental Surgery Research Day, Montreal, Canada, 2019. [\\*Best poster award.](#)

AP5. Seyedeh Maryam Mozafarinia, **Fateme Rajabiyazdi**, and Nancy Mayo. Measuring quality of health outcome goals using text mining techniques. Poster presentation at International Society for Quality of Life research, 26th annual conference, San Diego, USA, S126-S126, Springer, 2019.

AP4. Seyedeh Maryam Mozafarinia, **Fateme Rajabiyazdi**, and Nancy Mayo. Text mining application for measuring quality of health outcome goals. Poster presentation at Centre for Outcome Research & Evaluation Research Day, Montreal, Canada, 2019.

AP3. **Fateme Rajabiyazdi**, Charles Perin, Lora Oehlberg, and Sheelagh Carpendale. Personal Patient-Generated Data Visualizations for Diabetes Patients. Poster presentation at the *IEEE Information Visualization Conference*, Berlin, Germany, 2018. [Link](#)

AP2. Julie Babione, **Fateme Rajabiyazdi**, Charles Perin, Joseph Tropiano, Megan Cosby, Maria Santana, Jaime Kaufman, Sheelagh Carpendale, William Ghali, and Peter Sargious. Identifying Opportunities for Innovation in Patient-Centred Care Plans Through User-Centred Design Research. Poster presentation at *the Patient Oriented Research Summer Institute Conference*, Canada, Calgary, 2016.

AP1. **Fateme Rajabiyazdi**, Charles Perin, and Sheelagh Carpendale. WEST: Visualizing non-Emergency Surgery Waiting Times. Poster presentation at the *IEEE Information Visualization Conference*, Chicago, USA, 2015. [Link](#)

## Peer Reviewed Workshop Papers (W)

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W3. **Fateme Rajabiyazdi**, Charles Perin, Julie Babione, Joseph Tropiano, Maria Santana, Jaime Kaufman, William Ghali, Peter Sargious, and Sheelagh Carpendale. Challenges Involving Patients in their Care Plan from Clinicians’ Perspectives. In *Proceedings of the CHI Workshop on Interactive Systems in Healthcare (WISH’16)*, ACM, 2016. [Link](#)

W2. Xin Tong, Diane Gromala, Lyn Bartram, **Fateme Rajabiyazdi**, and Sheelagh Carpendale. Evaluating the Effectiveness of Three Physical Activity Visualizations - How People Perform vs. Perceive. In *Electronic Proceedings of the IEEE Information Visualization Conference*, 2015.

W1. Tamara Flemisch, **Fateme Rajabiyazdi**, Mona Hosseinkhani, and Sheelagh Carpendale. NeckLan: Language as Jeweller. In *Electronic Proceedings of the IEEE Information Visualization Conference*, 2015. [Link](#)

## Thesis (T)

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T3. **Fateme Rajabiyazdi**. Exploring the Design of Visualizations to Facilitate Patient-Provider Communication. *PhD Thesis, University of Calgary, 2018*. [Link](#)

T2. **Fateme Rajabiyazdi**. Design and Development of Interface for Different Tablet Sizes. *Master Thesis, School of Computer Science, Australian National University, 2012*. [Link](#)

T1. **Fateme Rajabiyazdi**. Finding Social Network Graphs in News Websites, *Bachelor Thesis (in Persian), School of Electrical and Computer Engineering, University of Tehran, 2010*.

## Grant Collaborations

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**CIHR Planning and Dissemination Grant 2019**, Transforming Post-Fracture Acute Pain Management in Older Men and Women through Mobile Health Application, PI: Dr. Suzanne Morin.

My role: gave input on the process and the required budget to develop the mobile application.

**CIHR Project Grant Fall 2019**, Opioid versus opioid-free analgesia after surgical discharge: a systematic review and meta-analysis, PI: Dr. Julio Fiore.

My role: reviewed the grant application, gave feedback and reviewed articles in part of systematic review.

## Scholarship and Awards

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**Computer Science Department Research Award**, University of Calgary, 2017-2018 \$11,000

**W21C Health Services Research Scholarship**, Alberta Health Services, 2016-2017 \$30,000

**W21C Health Services Research Scholarship**, Alberta Health Services, 2015-2016 \$30,000

**Computer Science Department Research Award**, University of Calgary, 2016-2017 \$8,000

**Faculty of Graduate Studies Travel Award**, University of Calgary, 2015 \$1,000

**Computer Science Department Research Award**, University of Calgary, 2015-2016 \$2,000

**Computer Science Department Research Award**, University of Calgary, 2014-2015 \$8,000

**Awarded 4th Place at Microsoft Imagine Cup**, University of Calgary, 2014

## Invited Talks

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**Department of Computer Science & Software Engineering, Concordia University** April 2020

*Title:* Designing and developing information visualization tools to support patients with their medical care

**Minimally Invasive Surgery Research Day, McGill University Health Center** October 2019

*Title:* What does 'recovery' mean to patients undergoing abdominal surgery?

**Human Factors Interest Group, University of Toronto** April 2018

*Title:* Designing and Developing Tools to Enhance Patient-Physician Communication - [Link](#)

**Ward of the 21<sup>st</sup> Century Symposium, Alberta Health Services** October 2015

*Title:* WES<sub>t</sub>: Visualizing non-Emergency Surgery Waiting Times

## Teaching Experience

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**Guest Lecturer - *Introduction to Information Visualization* - University of Calgary** Fall 2017

I was invited to present guest lectures on the principles of designing visualization. To give students a first-hand experience, I ran activities asking students to critique sample visualization designs and sketch new visualization designs in a group.

**Teaching Assistant - *Introduction to Information Visualization* - University of Calgary** Fall 2017

Instructor: Dr. Sheelagh Carpendale. Course level: Third and fourth year undergrad CS major students. I taught the most used visualization concepts and algorithms for designing visualizations, such as force-directed graph and reingold-tilford tree algorithms. In addition, I taught students how to program with JavaScript and D3 to make visualizations for their assignments and course projects.

**Course Developer & Teaching Assistant - *Thinking with Data* - University of Calgary** Summer 2017

Instructor: Dr. Nelson Wong - Course level: Non-computer science major undergrad students. The goal of this course was to familiarize students with the process of data collection, data cleaning, and data presentation. I outlined all the course assignments and helped the instructor in designing the course projects. I designed and delivered materials and activities for two 3-hour tutorial sessions each week. During the tutorials, I mentored students with their course projects and gave them feedback.

**Guest Lecturer - *Visualization and Visual Analytics* - University of Calgary** Fall 2016

I was invited to present guest lectures on how to use Python to run statistical analysis. I provided students with parts of the source code and asked them to simultaneously complete it as I was instructing them.

**Teaching Assistant - *Visualization and Visual Analytics* - University of Calgary** Fall 2016

Instructor: Dr. Wesley Willett - Course level: Third and fourth year undergrad CS major students. I ran the tutorial sessions for this course, marked students' projects, and assisted the instructor with outlining the assignments. I taught students how to use visualization software such as Tableau and Wrangler and delivered materials on using Python and R for statistical analysis.

**Teaching Assistant - *Human-Computer Interaction* - University of Calgary** Winter 2015

Instructor: Dr. Ehud Sharlin - Course level: Third and fourth year undergrad CS major students. I taught students how to conduct interviews with stakeholders of their project, identify the requirements and the system tasks, as well as programming with C# and WPF languages.

**Teaching Assistant - *Introduction to CS Application Software* - University of Calgary** Winter 2014

Instructor: Dr. James Tam - Course level: First and second year non-computer science major undergrad students. I ran weekly tutorials, each week introducing an introductory computer science software such as Microsoft Excel and Microsoft Access and conducting hands-on activities with the software.

**Teaching Assistant - *eCommerce* - Australian National University** Winter 2012

Instructor: Dr. Chris Johnson - Course level: Second year undergrad CS major students. I ran weekly tutorials engaging students in discussing how technology is changing global commerce. I taught web programming, helped students with troubleshooting their projects, and marked students assignments.

**Teaching Assistant - *Microprocessors* - University of Tehran** Winter 2009

Instructor: Dr. Omid Fatemi - Course level: Second year undergrad software engineering major students. I mentored students' group projects that involved tasks such as scoping the project, implementing the hardware, and evaluating the system. Each week, I provided students with feedback on their projects and helped them with troubleshooting.

## Supervision and Mentoring

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### Co-Supervision

Makena Pook. Master of Experimental Surgery McGill University 2020 - present  
General Surgeons Attitudes and Beliefs on Prescription of Opioids after Postoperative Hospital Discharge.  
Supervisor: Dr. Julio Fiore

Dr. Najla Al Ghaithi. Surgery Resident McGill University 2020 - present  
Understanding Gender Differences in Treatment Decision Making in Patients with Sigmoid Diverticulitis.  
Supervisor: Dr. Marylise Boutros

Rachel Szwimer. Medical student McGill University 2020 - present  
Exploring the Optimal Timing for detailed LARS discussions: The Rectal Cancer Survivor's Viewpoint.  
Supervisor: Dr. Marylise Boutros

Yossef Levin. Medical student McGill University 2020 - present  
Financial and Occupational Impact of Low Anterior Resection Syndrome in Rectal Cancer Survivors.  
Supervisor: Dr. Marylise Boutros

### Mentorship

Charbel El-Kefraoui. Master of Experimental Surgery McGill University 2019 - present

Uyen Do. Master of Experimental Surgery McGill University 2019 - present

Aditya Pal. Medical Student McGill University Summer 2019

Tharaniya Vallipuram. Medical Student McGill University Fall 2019

Andrew Miller. Medical Student McGill University Fall 2019

### Student Course Project Leader

Thinking with Data. University of Calgary Summer 2017

Human-Computer Interaction. University of Calgary Winter 2015

Microprocessors. University of Tehran Winter 2009

## Community and Volunteer Teaching

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**Workshop Tutor - Computer Science for Young Women** - University of Calgary Summer 2014  
Coordinator: Dr. Ben Stephenson - This event brought 36 high school girls to the department of computer science at the University of Calgary from across Canada for a week-long introduction to computer science. I co-conducted the digital hardware sessions and provided one-on-one help to students as they built circuits.

**Workshop Tutor - Let's Talk Science (LTS)** - University of Calgary Winter 2015  
LTS is a free program connecting educators and youth with volunteers to deliver science, technology, engineering and mathematics (STEM) topics in school and community settings. As part of this program, I conducted hands-on tutorials for primary education students in a (rural) school outside Calgary.

## Knowledge and Technology Transfer

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**MyCareCompass** - under development [Link](#) 2018 - present  
MyCareCompass is the first platform designed for patients with chronic conditions in Alberta to manage their care. During my Ph.D., I conducted field studies with physicians and patients to understand their perspectives on chronic care management. The results of these research studies and my visualization designs informed the development of this platform.

## Software Development and Design

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**WEST: Visualizing Surgery Waiting Time** [Link](#) - [Video](#) 2015  
WEST is a visualization for surgery waiting times applied to the province of British Columbia (BC) in Canada. This project is motivated by the long waiting time for surgeries in BC. WEST can help patients select a hospital and a physician, and to explore their options to get their surgery as soon as possible.

**Leitner System App** [Link](#) 2014  
Leitner app is designed to help people memorize flashcards bearing information as words or numbers. This app employs the Leitner system, a simple implementation of the principle of spaced repetition, where cards are reviewed at the increasing interval.

## International collaborations

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**Research Collaborator, Oxford Brookes University, United Kingdom** 2019 - 2020  
Collaboration with Centre for Movement, Occupational and Rehabilitation Science (MORES) with Dr. Mansoubi and Dr. Shelly Coe.

**Research Collaborator, Indiana University, United States** 2015 - 2017  
Collaboration with Dr. Haley Macleod.

## Academic Services

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**Program Committee** 2015 - present  
IEEE Information Visualization (InfoVis) Conference 2020 - 2021 - Short Papers  
McGill University Health Center Injury, Repair, Recovery Annual Research Day 2020 - Posters  
McGill University Experimental Surgery Research Day 2019 - Best Poster Award  
ACM Intelligent User Interfaces (IUI) Conference 2019 - 2020 - Short and Long Paper  
ACM Intelligent User Interfaces (IUI) Conference 2015 - Best Poster Award

**Conference Chair** 2016 and 2019  
ACM Interactive Surfaces and Spaces (ISS) Conference 2019 - Video Preview Chair  
ACM Interactive Surfaces and Spaces (ISS) Conference 2016 - Mobile App Chair

**Conference Student Volunteer** 2011 - 2018  
CHI 2018, CHI 2016, ITS 2015, OZCHI 2011

**Journal Paper Reviewer** 2019  
Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) Journal (2 articles)  
Value in Health Journal (1 article)

**Conference Paper Reviewer** 2015 - present  
AMIA 2017 - 2020, DIS 2018 - 2019, CHI 2016 - 2020, TEI 2017, IUI 2016, CSCW 2016, ISS 2015

## Languages

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English: Professional, French: Pre-Intermediate, Farsi/Persian: Native