

research statement

My research focuses on creating new input devices and interaction techniques, and studying various facets of their usability. I use a combination of fabrication and hardware prototyping, software development, and quantitative human-subject experiments.

education

MMath Computer Science, University of Waterloo Human Computer Interaction, "Contact-sensing Input Device Manipulation and Expertise" Supervisor: Daniel Vogel Note: Extra time in degree due to voluntarily taking all required CS undergrad courses	2015 – 2018 (expected) GPA: 95/100
Master of Entertainment Technology, Carnegie Mellon University Focusing on interactive experiences and installations as programmer and project manager	2013 – 2015 GPA: 3.9/4.0
BMath Combinatorics and Optimization Joint Pure Math, University of Waterloo French Certificate * Dean's Honours List	2008 – 2012 GPA: 93/100

skills

programming and hardware

Python, Java, Processing, C, C++, JavaScript, C#, Scheme, MATLAB, PHP
Arduino, Sensors, Electronic Prototyping

design and project management

3D modelling (3ds Max), 3D printing complex structures, Scrum, Photoshop

publications and exhibits

technical reports

Lisa Elkin, Ting Kei Pong, Stephen Vavasis (2013). Convex Relaxation for Finding Planted Influential Nodes in a Social Network. <http://arxiv.org/abs/1307.4047>.

- Completed literature review. Established conditions for generative model of social network and contributed to proof that convex optimization can recover exact influence optimizer using this generative model.

invited demos

Lisa Elkin*, Alex Hu*, Yan Jin*, Xuyan Ke*, Jack Koo*, Janet Lin*, Tim Rosko*, Brenda Harger, Ralph Vituccio (2014).

Feed: A Massive Outdoor Game to Combat World Hunger, Games for Change Festival 2014.

- Created mobile, geo-cached outdoor game motivated by experiences of food distribution volunteers.
- Interest from media outlets and organizations including World Food Program USA.
- Role: Project manager

* Equal contributors

interactive installations

Lisa Elkin*, Hyunghwan Byun*, Yu-Cheng (Larry) Chang*, Rose Heid*, Maoyang Li*, Qing Mao*, Adarsh Telekadan Puthiyaveettil*, Scott Stevens, Jessica Trybus (2015). **Energy Lab 2 (Vis Viva):** Seismic Mapping and Geology Education Installation, Elizabeth Forward School District 2015.

- Created interactive installation to teach middle school students about seismic mapping and rock properties.
 - Focused on UI and gameplay programming using C# in Unity.
 - Role: Programmer
- * Equal contributors

Lisa Elkin*, Jimit Bhalani*, Casey Ging*, Adarsh Pavani*, Juan Ramirez*, Shirley Saldamarco, Scott Stevens (2014).
Energy Lab 1 (Infinite): Large Touch-screen Dome for Solar Energy Education Installation, Elizabeth Forward School District 2015.

- Created 4ft wide, 2ft tall, diffuse illumination, hemispherical touch-screen.
 - Created game for dome to teach middle school students about solar energy.
 - Featured on CMU homepage (December 2015).
 - Role: Project Manager
- * Equal contributors

scholarships

Ontario Graduate Scholarship, 2017

\$15,00 scholarship based on academic merit

University of Waterloo President's Graduate Scholarship, 2017

\$10,000 scholarship based on academic merit

NSERC Postgraduate Scholarship, Masters (PGSM), 2014

\$17,300 scholarship based on research potential and academic merit

NSERC Canada Graduate Scholarship, Masters (CGSM), 2014

(cannot be held at international university, declined to accept PGSM)

\$17,500 scholarship based on research potential and academic merit

Ontario Graduate Scholarship, 2014 (declined to accept NSERC PGSM)

\$15,000 scholarship based on academic merit

University of Waterloo President's Graduate Scholarship, 2014

(declined to attend Carnegie Mellon University)

\$10,000 scholarship based on academic merit

Margaret A. Ryan Award, 2012

\$100 for receiving top grade in french linguistics course

NSERC Undergraduate Student Research Award, 2012

\$4,500 based on academic merit

University of Waterloo Women in Mathematics Scholarship, 2012

\$1,000 awarded to top female undergraduate math student in academic year

research and work experience

Carnegie Mellon University

Programmer and Lead Designer, School of Computer Science

2015

- Created web-based, interactive, computer science education tools.

University of Waterloo

Undergraduate Research Assistant, Combinatorics and Optimization Department

2012

- Research on influence maximization in social networks.

teaching experience

University of Waterloo

2015 – present

Graduate Teaching Assistant, School of Computer Science

Lab Instructor, CS105: Intro to Computer Programming 1 (Fall 2015, 2016, 2017)

- Ran lab with up to 60 arts students teaching them to program in Processing.

Teaching Assistant, CS449/649: Human-Computer Interaction (Spring 2017)

- Graded and gave in-person feedback on semester-long student projects.

Teaching Assistant, CS349: User Interfaces (Winter 2016)

- Graded assignments in Java and helped students in office hours.

Teaching Assistant, CS234: Data Types and Structures (Spring 2016)

- Graded data structures proofs and pseudo-code on assignments.

Lab Instructor, CS106: Intro to Computer Programming 2 (Winter 2016)

- Ran lab with up to 60 arts students teaching them to program in Processing.

Teaching Assistant, CS116: Intro to Computer Science (Winter 2016)

- Graded weekly Scheme and Python programming assignments.

Carnegie Mellon University

2014

Graduate Teaching Assistant, Entertainment Technology Center

Festival Teaching Assistant, BVW: Building Virtual Worlds (Fall 2014)

- Organized event to showcase students' work to over 500 industry guests.

University of Waterloo

2010 – 2012

Undergraduate Teaching Assistant, Faculty of Mathematics

Tutor, MATH138: Calculus 2 for Honours Math (Winter 2012)

Tutor, MATH135: Algebra for Honours Math (Fall 2011)

Tutor, MATH136: Linear Algebra 1 for Honours Math (Winter 2011)

Grader, MATH235: Linear Algebra 2 for Honours Math (Fall 2010)

service

Student Volunteer: UIST 2017

other

Drama Supervisor and Instructor: Taught classes and directed musicals

summer 2007 – 2011

Travel: 5 continents, 21 countries

ongoing

Dance: Trained 7 days/week. Competed internationally

1993 – 2008