

Susanne (Morrill) Bradley

(604) 340-2058

ca.linkedin.com/in/susannebradley

snbrad@cs.ubc.ca

EDUCATION

- 2015-present **Ph.D. in Computer Science**, University of British Columbia, Vancouver
Research specialization: numerical linear algebra
Supervisor: Dr. Chen Greif
- 2013-2015 **Master of Science in Computer Science**, University of British Columbia
Thesis: "Applications of Machine Learning in Sensorimotor Control"
Supervisor: Dr. Dinesh Pai
GPA: 87/100 (A)
- 2009-2013 **Bachelor of Science (Honours) in Mathematics**, Queen's University, Kingston
Statistics focus with a minor in computer science
GPA: 4.1/4.3 (A)

SCHOLARSHIPS AND AWARDS

- 2017 **UBC Computer Science Graduate TA Award**
- 2015-2019 **Four Year Doctoral Fellowship** (\$91,000)
- 2015-2018 **NSERC Postgraduate Scholarship (D)** (\$63,000)
- 2013-2014 **NSERC Alexander Graham Bell Canada Graduate Scholarship (M)** (\$17,500)
- 2013 **University of British Columbia Computer Science Merit Award** (\$10,000)
- 2012, 2013 **NSERC Undergraduate Student Research Award** (received twice; \$4,500)
- 2012 **Nellie and Ralph Jeffery Award in Mathematics** (\$980)
- 2011, 2012 **Dean's Honour List with Distinction** for GPA in top 3% of faculty
- 2011 **Nan Skelding Scholarship** (\$1,200)

TECHNICAL/PROGRAMMING SKILLS

- Basic Knowledge:** Prolog, C, C++, SAS, Linux, SVN, OpenGL
- Intermediate Knowledge:** Python, Word, PowerPoint, Java, Haskell
- Advanced Knowledge:** MATLAB, R, LaTeX

TEACHING AND RESEARCH INTERESTS

- Numerical linear algebra
- Scientific computing
- Statistics and data analysis
- Algorithms and data structures

TEACHING EXPERIENCE

- Jan-Apr 2017 **Sessional Lecturer**, University of British Columbia
Course: CPSC 320 (Intermediate Algorithm Analysis and Design)
- Delivered three lectures per week to a class of 64 students in an active-learning format
 - Developed course materials in collaboration with two other instructors
 - Teaching evaluation score: 4.2/5.0
- Jan 2015-Dec 2016; Sep 2017-present **Graduate Teaching Assistant**, University of British Columbia
- Teaching assistant for various advanced undergraduate and graduate courses
 - Responsibilities have included grading assignments and tests, holding office hours, designing assignments, preparing and delivering tutorials, managing other teaching assistants, and delivering guest lectures
 - Most recent student evaluation scores: received 4.98/5.0 for instructional effectiveness based on N=93 evaluations for CPSC 320
- Jan-Apr 2013 **Undergraduate Teaching Assistant**, Queen's University
Courses: CISC 121 (Introduction to Computing Science) and STAT 269 (Statistics and Probability II)
- Graded assignments and quizzes
 - Led lab sessions

RESEARCH EXPERIENCE

- Sept 2015-present **Ph.D. Student**, University of British Columbia
- Scientific computing laboratory, computer science department
 - Current work: developing preconditioners for double saddle point systems
 - RPE (research proficiency evaluation) project: adapted the FEAST algorithm for use with iterative linear solvers to compute eigenpairs of large, sparse matrices
- Sept 2013-Aug 2015 **Graduate Research Assistant**, University of British Columbia
- Sensorimotor systems laboratory, computer science department
 - Formulated and designed software implementations of novel methods for control of biomechanical systems
 - Largest project: combined MATLAB/C++ framework for simulation and fine motor control of an anatomically-based robotic hand

May 2012- **Undergraduate Research Assistant**, Queen's University

Aug 2013

- Statistics department
- Engineered software to compute theoretically optimal experimental designs
- Designed a program to generate optimally efficient training data points for deterministic computer experiments

PUBLICATIONS

1. **S. Bradley**. *Applications of machine learning in sensorimotor control*. Master's thesis, University of British Columbia, 2015.
2. P. Sachdeva, S. Sueda, **S. Bradley**, M. Fain, and D.K. Pai. Biomechanical simulation and control of hands and tendinous systems. *ACM Transactions on Graphics*, 34(4):42:1-42:10, July 2015.
3. (Under previous surname) C. Lin and **S. Morrill**. Design of variable resolution for model selection. *Journal of Statistical Planning and Inference*, 155, 127-134, December 2014.

CONFERENCE PRESENTATIONS

1. "Biomechanical simulation and control of hands." With P. Sachdeva, S. Sueda, and D.K. Pai. *Northwest Biomechanics Symposium*, University of British Columbia, Vancouver, BC, June 3-4, 2016.
2. "Biomechanical simulation and control of hands and tendinous systems." With P. Sachdeva, S. Sueda, M. Fain, and D.K. Pai. *SIGGRAPH 2015*, Los Angeles, CA, August 9-13, 2015.

SERVICE

- Advisory board member for development of Tapestry, a new tool for online course content development; October 2017-present.
- Graduate adjudicator for MURC (Multidisciplinary Undergraduate Research Conference), University of British Columbia, March 17, 2018.
- Panel member: *Graduate Pathways to Success and the Center for Writing and Scholarly Communication – Thesis Boot Camp*. University of British Columbia. November 2017, April 2017, and November 2016.
- Local organizer: *International Conference on Preconditioning Techniques for Scientific and Industrial Applications*. University of British Columbia, Vancouver, BC, July 31-August 2, 2017.

CONFERENCES AND WORKSHOPS ATTENDED

- *Multidisciplinary Undergraduate Research Conference*. University of British Columbia, Vancouver, BC, March 17, 2018.
- *International Conference on Preconditioning Techniques for Scientific and Industrial Applications*. University of British Columbia, Vancouver, BC, July 31-August 2, 2017.
- *AARMS Workshop on Domain Decomposition*. Dalhousie University, Halifax, NS, August 4-8, 2015.
- *SIGGRAPH 2014*. Vancouver, BC, August 10-14, 2014.

VOLUNTEER WORK

- 2017-2018 **Student mentor**, Ph.D. connections, University of British Columbia
- Participated in a lunch program by Graduate and Postdoctoral Studies to connect first-year graduate students with senior graduate students and staff
 - Advised students on living at UBC, succeeding in a Ph.D., and building positive relationships with peers and supervisors
- 2009-2013 **Peer Mentor**, Queen's University
- Met with struggling students to aid with academic comprehension
 - Designed personalized study and lifestyle plans, considering students' skills and learning styles
- May-August 2011 **Schoolteacher**, Nkoile Primary School, Kajiado County, Kenya
- Taught a semester of grade 4 English, grade 5 science, and grade 7 English and mathematics
 - Designed and graded homework assignments
 - Graded end-of-year standardized exams

PROFESSIONAL MEMBERSHIPS

- Society for Industrial and Applied Mathematics (SIAM)
- Association for Computing Machinery (ACM)