

## EDUCATION

<b>Harvard University</b>   PhD student in Computer Science Advisor: Prof. Radhika Nagpal	2016 –
<b>Imperial College London</b>   Master of Research in Bioengineering, with Distinction Advisors: Prof. Etienne Burdet, Dr. Ildar Farkhatdinov Thesis: <i>Assisting Balance Recovery with a Lower Limb Exoskeleton</i>	2016
<b>Northeastern University</b>   BS in Behavioral Neuroscience, Minor in Computer Science GPA: 3.98 / 4.0, summa cum laude Honors Thesis: <i>Asymmetric Learning in an Asymmetric Bimanual Task</i>	2015

## RESEARCH

<b>Harvard Self-organizing Systems Research Group</b>   Prof. Radhika Nagpal Perception and decision-making in heterogeneous robot collectives	2016 –
<b>Imperial College Human Robotics Group</b>   Prof. Etienne Burdet, Dr. Ildar Farkhatdinov Co-control of balance recovery in a lower limb exoskeleton	2015 – 2016
<b>Northeastern University Action Lab</b>   Prof. Dagmar Sternad Prediction and stability in control of objects with complex dynamics Learning and long-term retention of an asymmetric bimanual task Effects of central fatigue on cognitive and motor performance	2014 – 2015 2012 – 2015 2011 – 2012
<b>Northeastern University Marine Science Center</b>   Prof. Joseph Ayers Neuro-inspired rheotaxis and antenna design in a robotic lobster	May – August 2015
<b>Max Planck Institute for Intelligent Systems</b>   Prof. Stefan Schaal Learning and exploration in a novel dimensionality-reduction task	July – December 2013

## AWARDS

Hertz Fellowship Finalist	2016
National Science Foundation Graduate Research Fellowship Program (NSF GRFP) Honorable Mention	2016
Northeastern University Honors Program Distinction	2015
Northeastern Honors in the Behavioral Neuroscience	2015
Northeastern Alex Skavenski Award for Behavioral Neuroscience	2015
Northeastern Sears B. Condit Award for academic achievement	2015
Northeastern Dean's List (6 semesters)	2010 – 2015
Rhodes, Fulbright, and Mitchell Scholarship Finalist	2015

## GRANTS AND SCHOLARSHIPS

Department of Energy Computational Science Graduate Fellowship (DOE CSGF)	2016
Marshall Scholarship	2015
Northeastern Provost Undergraduate Advanced Research Award	2014
Goldwater Scholarship	2013
Northeastern Provost Undergraduate Research Award	2013
DAAD Undergraduate Scholarship	2013
Northeastern Presidential Global Scholarship	2013
Northeastern National Merit Scholarship	2010

## PUBLICATIONS

- S. Bazzi, **J. Ebert**, N. Hogan, and D. Sternad, "Stability and Predictability in Dynamically Complex Physical Interactions," *ICRA 2018*.
- [Submitted] **J. Ebert**, M. Gauci, and R. Nagpal, "Multi-Feature Decision Making in Agent Collectives," *AAMAS 2018*.
- [Submitted] I. Farkhatdinov, **J. Ebert**, G. van Oort, E. van Asseldonk, and E. Burdet, "Experiments on Human Balancing Co-Control in Standing," *Robotics and Autonomous Systems*.
- [In preparation] S. Park, **J. Ebert**, D. Sternad, "Asymmetric Learning in an Asymmetric Bimanual Task."

## CONFERENCES ABSTRACTS AND POSTERS

- J. Ebert**, C. Teeple, E. Steinhardt, and S. Ramanathan, "Infotaxis in a Multi-agent Sensor Network." Poster at: *DOE CSGF Program Review*; 24–27 July 2017; Washington, DC.
- I. Farkhatdinov, **J. Ebert**, G. van Oort, E. van Asseldonk, and E. Burdet, "Human Balance Augmentation with Lower Limb Exoskeleton Robot." Extended abstract and poster at: *RehabWeek 2017 workshop: Towards a next generation of wearable robotic devices for human-oriented assistance and therapy*; 17 July 2017; London, UK.
- J. Ebert**, I. Farkhatdinov, G. van Oort, E. van Asseldonk, and E. Burdet, "Preliminary Study on Assisting Balance Recovery with Lower Limb Exoskeleton." Work in progress paper and poster at: *EuroHaptics 2016*; 4–7 July 2016; London, UK.
- D. Sternad, A. Mukovskiy, **J. Ebert**, and T. Dijkstra, "Dynamic Stability in the Control of Complex Objects." Poster at: *Biomechanics and Neural Control of Movement 2016*; 12–17 June 2016; Mt. Sterling, OH.
- J. Ebert**, S. Park, and D. Sternad, "Asymmetric Learning in an Asymmetric Bimanual Task." Poster at: *Society for the Neural Control of Movement 25th Annual Meeting*; 20–24 April 2015; Charleston, SC.
- J. Ebert**, A. Mukovskiy, T. Dijkstra, and D. Sternad, "Why You Don't Spill Your Coffee." Poster at: *Northeastern University Research, Innovation, and Scholarship Expo (RISE)*; 9 April 2015; Boston, MA.
- J. Ebert**, S. Kim, D. Sternad, and S. Schaal, "Learning and exploration in a novel dimensionality-reduction task." Poster at: *Society for the Neural Control of Movement 24th Annual Meeting*; 20–25 April 2014; Amsterdam, NL.
- J. Ebert**, S. Park, and D. Sternad, "Asymmetric Learning in an Asymmetric Bimanual Task." Poster at: *Northeastern University Research, Innovation, and Scholarship Expo (RISE)*; 10 April 2014; Boston, MA.
- J. Ebert**, S. Park, and D. Sternad, "Asymmetric Learning in an Asymmetric Bimanual Task." Poster at: *Northeast Undergraduate Research and Development Symposium*; 2–3 March 2013; Biddeford, ME.
- J. Ebert**, S. Park, L. Griffin, T. O'Neil-Pirozzi, and D. Sternad, "Central Fatigue in Cognitive and Motor Performance." Poster at: *Northeastern University Research, Innovation, and Scholarship Expo (RISE)*; 29 March 2012; Boston, MA.

## TALKS

- J. Ebert**, M. Gauci, and R. Nagpal, "Collective Perception and Decision Making in Heterogeneous Swarms," *Wyss Institute Molecular Robotics Initiative*; September 2017

## TEACHING

### Harvard Department of Computer Science

CS 189: Autonomous Robot Systems, Teaching Fellow

Spring 2018

### Northeastern Department of Computer Science

CS 2510: Fundamentals of Computer Science, Teaching Assistant (2 semesters)

2014 – 2015

CS 2510: Fundamentals of Computer Science, Tutor (3 semesters)

2012 – 2014

### Proactive Recruitment in Science and Mathematics (PRISM)

Undergraduate Mentor

2011 – 2013

## EMPLOYMENT

### Interactive Motion Technologies

Software Development Co-op

July – September 2014

## SERVICE

Northeastern Civic Engagement Program

2010 – 2015

Boston Bikes volunteer

2014 – 2015

Tutor team leader at TechBoston Academy

2014

Brigham and Women's Hospital: Medical Career Exploration Program volunteer

2011 – 2013

Massachusetts General Hospital: Youth Program mentor

2010 – 2011

## SKILLS

### Programming Languages

Python (including Django, NumPy, SciPy, Matplotlib) • MATLAB • C/C++ (including OpenMP, AVR, Arduino) • HTML/CSS •  $\text{\LaTeX}$  • JavaScript • Java • Simulink • LabView

### Fabrication

Laser cutting • Vinyl cutting • Milling, ShopBot • Electronics design (Eagle) and production • Soldering • Sewing • 3D printing • Molding and casting

#### **Other**

Computer-aided design (OnShape) • Database design • Linux • Embedded programming • 3D motion capture • Kinematic and EEG data collection in human subjects

## RELEVANT COURSEWORK

#### **Computer Science**

Biologically-inspired Multi-agent Systems • Machine Learning • Network Algorithms • Computational Neurodynamics • Artificial Intelligence • Robotics

#### **Science and Engineering**

How to Make (Almost) Anything • Biomimetics • Comparative Neurobiology • Human Neuroanatomy • Biochemistry • Genetics and Molecular Biology • Organic Chemistry

#### **Mathematics**

Biological Signal Processing • Statistics and Data Analysis • Multivariable Calculus • Linear Algebra • Differential Equations