

Kayla DesPortes

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EDUCATION

Georgia Institute of Technology

PhD, Human-Centered Computing

2013-2018 (anticipated)

Learning Sciences & Technology

Dissertation

Physical Computing Education: Designing for Empowerment through Value-Driven Learning

Advisor

Dr. Betsy DiSalvo, Georgia Institute of Technology, School of Interactive Computing

Committee

Dr. Mark Guzdial, Georgia Institute of Technology, School of Interactive Computing

Dr. Wendy Newstetter, Georgia Institute of Technology, School of Interactive Computing

Dr. Paulo Blikstein, Stanford University, Graduate School of Education

Dr. Ben Shapiro, University of Colorado Boulder, College of Engineering and Applied Sciences

Cornell University

BS, Electrical and Computer Engineering

2006-2010

Computer Engineering

RESEARCH INTERESTS

- Physical Computing Education
- Broadening Participation in Computing
- Computing Education
- Design of Computing Educational Technology
- Maker Education
- Participatory Design in Education

PROFESSIONAL EXPERIENCE

Georgia Institute of Technology

Graduate Research Assistant

2013 – Present

- Collaborate and build relationships with community groups
- Develop and implement maker-based educational interventions to understand how to interest and engage underrepresented populations in computing
- Develop and implement inclusive learning activities for computing
- Design educational tools to improve educational experiences involving physical computing

Adobe Systems Incorporated

Creative Technologies Lab Research Intern

2014-2015

- Implemented a video editing and optimization tool to shorten the time to edit and produce a final product
- Designed a web application in JavaScript (front-end) and Python (back-end)

Intel Corporation

Component Design Engineer

2010-2013

- Formed and managed a team of 15 programmers to develop innovative solutions to address challenges in our group
- Led time-critical coding projects for automating triage of failure analysis
- Created hardware and software infrastructure for automation of memory unit tests
- Debugged 3.6 billion transistor mission critical chips
- Developed and supported validation software for error injection into server processors
- Designed learning activities to teach python to co-workers

Platform Validation Intern

2009

- Investigated, debugged and tested validation software to determine portability, usability, and success
- Debugged 3.6 billion transistor mission critical chips
- Created presentations for teaching computer architecture principles
- Compiled and shared final technical reports of findings

TEACHING

Instructor

Introduction to Educational Technology

Summer 2016

22-student undergraduate and graduate course focused on exploring learning theories and their integration into technology; students applied theories to the design and analysis of educational tools

Computing and Society

Summer 2015

40-student undergraduate course that focused on ethics with technology design and implementation; students learned about ethical theories, which were used to analyze ethical dilemmas they found personally relevant

Teaching Assistant

Issues in Human-Centered Computing

Spring 2016

10-student graduate seminar that focused on exploring the foundational literature in human computer interaction

Introduction to Educational Technology

Spring 2013

40-student undergraduate course that focused on exploring learning theories and their integration into technology

Teaching Assistant Orientation Fellow

Summer 2016, 2017

One of 10 experienced Teaching Assistants selected by Georgia Tech's Center for Teaching and Learning to design and lead the New TA Orientation serving around 200 new TAs each fall; created learning activities for topics such as Policy and Procedures, Roles and Responsibilities, Active Learning, and Body and Voice

PUBLICATIONS

9. Roshan, P., DesPortes, K., Cochran, Z., & DiSalvo, B. (2017). Framing Makerspace Communities: Exploring Togetherness, Collaboration, and Learning. *Proceedings of the 7th Annual Conference on Creativity and Fabrication in Education (In Press)*.

8. **DesPortes, K., & DiSalvo, B. (2017).** Where are the Glass-Boxes? Examining the Spectrum of Modularity in Physical Computing Hardware Tools. *Proceedings of the the 16th International Conference on Interaction Design and Children* (pp. 292-297). ACM.
7. DiSalvo, B., & **DesPortes, K. (2017).** Participatory Design for Value-Driven Learning. In *Participatory Design for Learning: Perspectives from Practice and Research*.
6. **DesPortes, K. (2016).** Learning and Collaboration in Physical Computing. *Proceedings of the 2016 ACM Conference on International Computing Education Research* (pp. 283-284). ACM. [Part of the Doctoral Consortium]
5. **DesPortes, K., Anupam, A., Pathak, N., & DiSalvo, B. (2016).** Circuit Diagrams vs. Physical Circuits: The Effect of Representational Forms During Assessment. In *Frontiers in Education Conference (FIE), 2016 IEEE* (pp. 1-9). IEEE.
4. **DesPortes, K., Anupam, A., Pathak, N., & DiSalvo, B. (2016).** BitBlox: A Redesign of the Breadboard. *Proceedings of the The 15th International Conference on Interaction Design and Children*, (pp. 255–261). ACM.
3. **DesPortes, K., Spells, M., & DiSalvo, B. (2016a).** Interdisciplinary Computing and the Emergence of Boundary Objects: A Case-Study of Dance and Technology. *International Society of the Learning Sciences*, (pp. 890-893).
2. **DesPortes, K., Spells, M., & DiSalvo, B. (2016b).** The MoveLab: Developing Congruence Between Students' Self-Concepts and Computing. (pp. 267–272). ACM.
1. Seim, C., Chandler, J., **DesPortes, K.,** Dhingra, S., Park, M., & Starner, T. (2014). Passive haptic learning of Braille typing. *Proceedings of the 2014 ACM International Symposium on Wearable Computers*. 111–118. ACM.

PRESENTATIONS AND POSTERS

5. **DesPortes, K. (2017).** I-Corps Recap: Customer Discovery Experience. *Invited Talk at BIG Incubator for High Potential Black and Latinx women founders*, Atlanta, Georgia, June 2017.
4. **DesPortes, K. (2017).** Physical Computing Education: Value-Driven Learning and Hardware Tool Design. *Invited Talk at University of Colorado Boulder at Laboratory of Playful Computing*, Boulder, Colorado, February 2017.
3. **DesPortes, K. (2015).** The MoveLab: Supporting Diversity through Self-Conceptions *International Computing Education Research Conference*, Toronto, Canada, August 2015.
2. **DesPortes, K. (2015).** Broadening Participation in Computing: The MoveLab. *Annual GEM Conference*, Boston, Massachusetts, August 2015.
1. **DesPortes, K. (2014).** Quick-Cut: Automatic Video Editing Software. *Annual GEM Conference*, San Diego, California, August 2014.

WORKSHOPS AND DOCTORAL CONSORTIUMS

3. **DesPortes, K., DiSalvo, B. (2017).** Value-Driven Computing Education: Infrastructuring Strategies to Scaffold Meta-Design. *Design Trade-Offs for Quality of Life*, Hannover, Germany, October 2017.

2. **DesPortes, K., DiSalvo, B. (2017).** Infrastructuring Strategies in Making Activities: Student Empowerment Through Value-Driven Learning in Make2Learn-IoT Workshop, *16th International Conference on Interaction Design and Children*, Stanford, California, June 2017.
1. **DesPortes, K. (2016).** Learning and Collaboration in Physical Computing. *Proceedings of the 2016 ACM Conference on International Computing Education Research* (pp. 283-284). ACM.

HONORS

Foley Scholar Finalist **2017**
 One of 8 finalists of a fellowship awarded by the Georgia Tech GVU Center recognizing its top PhD students

National Science Foundation Innovation-Corps (I-Corps) **2017**
 Awarded **\$50,000** in funding to explore commercialization pathways for educational technology developed through research

Technological Innovation: Generating Economic Results (TI:GER) Fellowship **2016**
 One of 9 recipients receiving **\$23,000** graduate education fellowship waiving tuition and providing a 9-month stipend for a 3-semester program resulting in an industry analysis and a commercialization plan around educational technology for teaching physical computing

Venture Labs Start-Up Competition Finalist **2016**
 One of 8 teams selected as finalists in a start-up competition focused on defining a business model using evidence-based entrepreneurship centered around technology solutions

Graduate Engineering Minority (GEM) PhD Engineering Fellowship **2014**
 Fellowship sponsored by Adobe Systems including award of a summer internship in the Creative Technologies Lab and funding of **\$21,000** for tuition and stipend

Convergence Innovation Competition Winner **2014**
 Team won bi-annual student computing competition by collaborating with the Women's Resource Center to create a Sexual Assault Transparency application for anonymous reporting to shed light on topics that are under reported.

Poulson Project Recognition Award **2012**
 Received project team award from Intel for efficiently and effectively bringing the Poulson Itanium Processor to market

Platform Validation Division Recognition Award **2011**
 Received recognition for work developing and implementing a new validation program that could inject errors into the processor thousands of times faster than any other solution

MENTORING AND ADVISING

Francis Castro – Ph.D. of Computer Science, Worcester Polytechnic Institute	2016 - Present
Aditya Anupam – M.S. of Electrical Engineering, Georgia Tech	2016
Neeti Pathak – M.S. of Computer Science, Georgia Tech	2016
Monet Spells – M.S. of Human-Computer Interaction, Georgia Tech	2015
Anjali Shankar – B.S. of Computer Science, Georgia Tech	2014

COMMUNITY ENGAGEMENT AND PARTNERSHIPS

The Bridge Academy

2016

Cultivated and sustained partnership to create and run summer programs with this educational organization that provides non-traditional pathways for urban students to acquire a High School diploma or GED depending on the student's goals

Ridgeland High School

2015

Initiated and fostered relationships to run classroom studies with this rural public high school in Georgia that seeks to provide students with hands-on educational experiences tied to the agricultural practices of their community

Eyedrum

2014-2015

Cultivated and sustained partnerships for running a computing education workshop with this non-profit artist collective in downtown Atlanta that seeks to provide engagement between artists from various disciplines in the contemporary art community

Big Brothers Big Sisters of Metro Atlanta

2014

Initiated and fostered relationships, running computing education workshop studies with this mentorship organization focused on providing support, resources, and experiences to children facing adversity in the metro-Atlanta area

Enchanted Closet

2013-2015

Pioneered relationships, running educational computing workshops and research projects with this community organization focused on providing opportunities that help young women in the Metro-Atlanta to build their self-esteem, while exploring how to become self-sufficient and a contributor in their community

SERVICE

Georgia Institute of Technology

- VP Graduate Student Council for the School of Interactive Computing **2016-2017**
- Board Member of Graduate Women in the College of Computing **2014-2017**
- Student Organizer for Interactive Computing's Ph.D. Recruitment Week **2016**
- Member of Black Student Graduate Association in College of Computing **2013-2015**

Intel Corporation

- VP of Intel's Recent College Graduate Group **2011-2013**
- Board Member of Network of Intel African Americans (NIA) **2011-2013**
- Co-Chair of Intel's NIA Leadership Conference **2012**

Conference Reviewer

Digital Fabrication in Education (FabLearn) **2017**
Special Interest Group on Computer Science Education (SigCSE) **2015, 2017**
Frontiers in Engineering Education (FIE) **2016**
Interaction Design and Children (IDC) **2015, 2016**
International Conference of the Learning Sciences (ICLS) **2015**
International Computing Education Research (ICER) **2014, 2015**
Computer-Human Interaction (CHI) **2013, 2014, 2015**