

Edward F. Melcer

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RESEARCH INTERESTS

Embodiment; educational games and technologies; augmented/mixed reality; tangibles; virtual reality; physical, social, and emotional games; human-computer interaction; user experience evaluation; game studies; affective computing.

EDUCATION

NYU Tandon School of Engineering, Brooklyn, New York

Ph.D. in Computer Science

Expected May, 2018

Masters in Computer Science, GPA: 3.9

Jan, 2016

Specializations: HCI, UX Evaluation, Educational Game Design, Embodiment

Polytechnic Institute of New York University, Brooklyn, New York

May, 2013

Bachelor of Science in Computer Science, Summa Cum Laude

Specialization: Digital Game Design and Development

GPA: 3.8, Dean's List 2009 - 2013

RESEARCH POSITIONS AND PROJECTS

Polytechnic Institute of NYU

New York, NY

Game Innovation Lab Research Assistant (Advisor: Dr. Katherine Isbister) Sep, 2011 - Current

- **Bots & (Main)Frames** – Developed web, tangible, and augmented reality versions of a computational thinking game to evaluate impacts on learning and meaning making when moving through space and manipulating physical tools. The web game has been a finalist in educational game design competitions such as the Serious Games Showcase & Challenge at the I/ITSEC conference.
- *Constructive Sensual Evaluation Instrument (CSEI)* – Developed, tested, and presented an alternative model for measurement of emotion at CHI 2014 Workshop on Tactile User Experience Evaluation Methods and study results in CHI 2016 Late Breaking Work. The research develops a new emotional assessment tool that removes verbal limitations and utilizes affective dimensions of shape to capture and understand emotion.
- *Scoop!* – Developed, tested, and presented at CHI 2012 a Kinect based game designed to reduce math anxiety through "high-power" poses. The research is to understand how physicality in games can alter emotions towards STEM topics in a more positive way.

eBay Inc. Research Labs

San Jose, CA

Ph.D. Intern Research Scientist

May, 2014 – Aug, 2014

Developed gamified mobile app shopping experiences through scenario building, prototyping, and literature review. The research was to examine the effectiveness of alternative shopping experiences that circumvent information and choice overload common in typical online shopping interfaces.

PEER REVIEWED PUBLICATIONS

Edward F. Melcer, and Isbister, K. (2016). Bridging the Physical Learning Divides: A Design Framework For Embodied Learning Games and Simulations. In Proceedings of the 1st International Joint Conference of DiGRA and FDG. Dundee, Scotland.

[Best Paper Honorable Mention in Late-Breaking Work Track]

Edward F. Melcer, and Isbister, K. (2016). Bridging the Physical Divide: A Design Framework For Embodied Learning Games and Simulations. In Extended Abstracts of the 34th Annual ACM Conference on Human Factors in Computing Systems. Proc. of CHI '16, San Jose, CA. ACM.

Edward F. Melcer, and Isbister, K. (2016). Motion, Emotion, and Form: Exploring Affective Dimensions of Shape. In Extended Abstracts of the 34th Annual ACM Conference on Human Factors in Computing Systems. Proc. of CHI '16, San Jose, CA. ACM.

[Best Paper Award in Game Studies Track]

Edward F. Melcer, Nguyen, H., Chen, Z., Canossa, A. El-Nasr, M., & Isbister, K. (2015). Games Research Today: Analyzing the Academic Landscape 2000-2014. In Proceedings of the tenth international conference on the foundations of digital games.

Anne E. Bowser, Oliver L. Haimson, **Edward F. Melcer**, and Elizabeth F. Churchill. On Vintage Values: The Experience of Secondhand Fashion Reacquisition. In Proceedings of 33rd Annual ACM Conference on Human Factors in Computing Systems. Proc. of CHI '15, Republic of Korea, Seoul. ACM.

Oliver L. Haimson, Anne E. Bowser, **Edward F. Melcer**, and Elizabeth F. Churchill. Online Inspiration and Exploration for Identity Reinvention. In Proceedings of 33rd Annual ACM Conference on Human Factors in Computing Systems. Proc. CHI '15, Republic of Korea, Seoul. ACM.

Edward Melcer, and Isbister, K. (2014). Emotional space: understanding affective spatial dimensions of constructed embodied shapes. In Proceedings of the *2nd ACM symposium on Spatial user interaction* (SUI '14). ACM.

Karlesky, M., **Melcer, E.**, & Isbister, K. (2013, April). Open sesame: re-envisioning the design of a gesture-based access control system. In *CHI'13 Extended Abstracts on Human Factors in Computing Systems* (pp. 1167-1172). ACM.

WORKSHOPS

Melcer, Edward, and Katherine Isbister. "Bridging the Physical Divide: A Design Framework for Embodied Learning Systems". Moved to Be Moved Workshop. CHI 2016, San Jose, CA, USA. N.p., 7 May. 2016.

Melcer, Edward, and Katherine Isbister. "CSEI: The Constructive Sensual Evaluation Instrument." *Workshop on Tactile User Experience Evaluation Methods*. CHI 2014, Toronto, ON, Canada. N.p., 26 Apr. 2014.

ADDITIONAL PRESENTATIONS

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| IndieCade East Festival - Veterinarian's Hospital: Ruff Day Game Demo | May, 2016 |
| Come Out & Play Festival - Veterinarian's Hospital: Ruff Day Game Demo | July, 2015 |
| NYU Engineering Research Expo - Carb Crush and Bots & (Main)Frames Demos | April, 2015 |
| World Science Festival - Innovation Arcade Boulderdash Demonstration | June, 2013 |

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| CHI 2013 - Open Sesame Poster Presentation | May, 2013 |
| CHI 2012 - Scoop! Interactivity Exploration | May, 2012 |
| World Science Festival - Innovation Arcade Scoop! Demonstration | June, 2012 |
| 9th Annual Games for Change Festival - G4LI Game Play Expo of Scoop! | June, 2012 |

INDUSTRIAL POSITIONS

Gigantic Mechanic Brooklyn, NY
Game Design and Development Internship May, 2015 - Aug, 2015

Designed play oriented physical games for children age 4-6. Developed prototypes and playtested various digital games including experimental 3D soundscape interactions.

Lockheed Martin Global Training and Logistics Orlando, FL
Software Engineering Internship, Project Lead May, 2011 - Aug, 2011

Lead development team in creation of "LM Maps" facility mapping software. Developed user interfaces, software and scripts for the Advanced Gunnery Training System. Performed regression testing on tank simulation systems.

Lockheed Martin Global Training and Logistics Orlando, FL
Software Engineering Internship May, 2010 - Aug, 2010

Developed user interfaces, tested diagnostic instruments and automated test equipment for the LM-STAR vehicle diagnostic hardware.

TEACHING POSITIONS

Playable Fashion Weekend Workshop New York, NY
Instructor Jan, 2014

Introduced students in Staten Island, Queens, and Bronx to the concept of playable fashion at the crossroads of video games, technology, and fashion design. Taught students how to embed sensors into clothing and program video games using sensor input.

CrEST (Creativity in Engineering, Science and Technology) Program New York, NY
Instructor Dec, 2012 - Aug, 2013

Taught New York City high school students computer science, physical computing, mechanical systems and STEM concepts. Involved lecturing, writing curriculum, running labs, building projects with students, creating demonstrations and example sessions.

Polytechnic Tutoring Center New York, NY
Computer Science Tutor, Team Leader Sep, 2010 - May, 2013

Aided students with learning material in C++ and Python. Leader of the computer science tutoring team since Sep, 2011. Coordinated development of preparatory mock examinations between professors and tutors.

HONORS AND AWARDS

Finalist, Bots & (Main)Frames at Serious Games Showcase & Challenge, I/ITSEC 2016

Best Paper Honorable Mention in LBW Category, Bridging the Physical Divide, CHI 2016

Best Paper, Games Research Today: Analyzing the Academic Landscape 2000-2014, FDG 2015
Provost Fellowship, NYU Polytechnic School of Engineering, 2013
PIAA Outstanding Graduate Award, Polytechnic Institute of NYU, 2013
Pearl Brownstein Senior Award, Polytechnic Institute of NYU, 2013
John J. Dropkin Memorial Award, Polytechnic Tutoring Center, 2013
Finalist, Games for Learning (G4LI) Design Competition, 2011

TECHNICAL SKILLS

Languages: C/C++, C#/Java, Python, Javascript/Actionscript

Engines, Frameworks, & Libraries: Unity, Processing, Cinder/OpenFrameworks, Kinect/XNA, Arduino, Flash

PROFESSIONAL AFFILIATIONS

Student Member of Association for Computing Machinery, 2011 – Current

Member of SIGCSE, 2011 – Current

Member of SIGCHI, 2012 – Current