

Maria Hwang

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Research Interests

Human Computer Interaction; Data-Driven, User-Centered Design; User Engagement and Motivation; Gamified Ubiquitous Learning; Tailored and Persuasive Interventions; Fashion Application Technologies; Health Games; Self-Monitoring and Management Apps for Chronic Diseases.

Current Position

Fashion Institute of Technology (FIT)

New York, NY

Assistant Professor

Aug 2018–Present

Teach computer science courses on topics on machine learning, statistics, data mining, programming and mobile apps, and computer based developmental math; Develop new courses to expand the computer science track within the science and math department. <http://www.fitnyc.edu/science-math/faculty/maria-hwang.php>

Education

Teachers College, Columbia University

New York, NY

Instructional Technology and Media Ed.D.

2011–2016

Dissertation: *Effectiveness of Message Framing in a Digital Game Environment*

Advisor: Dr. Charles Kinzer

Teachers College, Columbia University

New York, NY

Cognitive Studies in Education M.A.

2009–2011

Advisor: Dr. John Black

Wesleyan University

Middletown, CT

Neuroscience and Behavior B.A. & East Asian Studies B.A.

2004–2008

Advisor: Dr. Ellen Widmer

Professional Experience

Columbia University Medical Center

New York, NY

Postdoctoral Research Fellow

Aug 2016–July 2018

Conducted research in the areas of human computer interaction, game-based motivational strategies, ubiquitous learning, persuasive health interventions, and diabetes education; Advised students — Chantes, Pantiphar (2018, EdD), Chau, Michelle (PhD, 2021); Sin, Margaret (MA, 2018); Mao, Yishen (MA, 2018), Lee, Brian (BS, 2017); Jae, Yeonjae (BS, 2021); Kim, Dongwon (BA, 2021); Paek, Kichan (BS, 2020).

World Scholars LLC

New Haven, CT

Co-Founder & President

Feb 2017–Present

Founded an international educational exchange company to provide inclusive, thought-provoking, liberal arts educational experience for students. <https://worldscholars.global/about.html>

Geumgang University

Nonsan, South Korea

Visiting Faculty

Nov 2015–Aug 2016

Taught two + assisted three courses in a mix of Korean and English; Intro to Game Design, Intro to Web Design + Intro to Computer Science, Intro to Object Oriented Programming, and Computer Music; Formulated strategic plans for the new Information Science department by curriculum planning, and developing interdisciplinary studies.

Games for Learning Institute; TC Games Research Lab: Columbia U.

New York, NY

Lead Research Assistant

Mar 2013–May 2016

Worked with Prof. Charles Kinzer and Prof. Joey Lee on designing and evaluating game-based educational tools and applications; Monitored the progress of all research assistants' work; Mentored graduate students.

The Abraham Joshua Heschel School*Instructional Technology Integrator***New York, NY***Oct 2013–Dec 2015*

Provided technology support for teachers and IT staff as the liaison between the two groups; Taught 9th graders Tech101 on technology tools as well as initiated discussions on 21st century issues such as cyber attacks, privacy, cloud computing, media literacy, & technology consumption vs. creation.

Math, Science, and Technology Dept., Columbia U.**New York, NY***Teaching Assistant for the Doctoral Colloquium**Sep 2013–May 2014*

Planned and coordinated the doctoral colloquium curriculum and invited guest speakers; Led and facilitated discussions and conversations among doctoral students on current issues in educational technology.

The Lang School**New York, NY***Lead Math Teacher & Assistant Technology Teacher**Feb 2012–Dec 2012*

Taught kindergarten through middle school students (K-8) in mathematics and technology; Lesson-planned and coordinated technology-infused math and engineering instruction with co-teachers using programs such as Scratch, Greenfoot, Google SketchUp, Moodle, Alice, & LEGO Mindstorms.

The Green School**Brooklyn, NY***Student Teacher & Substitute Teacher**Feb 2011–Dec 2012*

Taught high school students (9-12) primarily in mathematics; Lesson-planned and coordinated instruction with co-teachers to focus on preparing students to achieve grade-level proficiency and meet Common Core standards for the Regents; Participated in math departmental meetings to manage instruction across grades.

Center for Technology and School Change, Columbia U.**New York, NY***Research Intern**Sep 2010–May 2011*

Engaged with a curriculum design process, *Understanding by Design* (Wiggins & McTighe, 2005), to create a goal-oriented professional development plan and technology-infused course design for NY high school teachers.

Concordia Language Villages**Bemidji, MN***Counselor, Language Teacher, Life Guard**Summer 2007, 2009, 2010*

Ascertained group interests, and evaluated campers and their behaviors to find and adopt the most developmentally appropriate and nurturing activities that meet their needs; Prepared materials for class activities and taught in small groups through different methods to promote language acquisition.

Wesleyan University**Middletown, CT***Residential Advisor**Aug 2006–May 2007*

Enforced rules and regulations to ensure the smooth and orderly operation of dormitory programs; Mediated interpersonal problems between residents; Made regular rounds to ensure that residents and areas are safe and secure; Hosted social events to increase community engagement and awareness.

Publications

Hwang, M., & Williamson, C. (2020). Using Cloud Tools for Literate Programming to Redesign an AI course for Non-traditional College Students. *The Tenth Symposium on Educational Advances in Artificial Intelligence (EAAI)* in the 34th AAAI Conference on Artificial Intelligence.

Hoffman, D., Santolucito, M., **Hwang, M.**, & Paek, S. (2019). Lessons in Combining Discrete and Continuous Assessment Data: Activity Trackers, Standardized Tests, and Test Anxiety. *The Association for Educational Communications & Technology (AECT)*. <http://mariahwang.com/research.html>

Mitchell, E., Burgermaster, M., Heitkemper, E., Levine, M., Miao, Y., Desai, P., **Hwang, M.**, Albers, D., Smaldone, A., & Mamykina, L. (2019, May). Personalized, data-driven recommendations for diabetes self-management with GlucoGoalie. In the *Extended Abstracts of the ACM CHI Conference on Human Factors in Computing Systems (WISH 2019)*, Glasgow, UK. <http://mariahwang.com/research.html>

Desai, P., Mitchell, E., **Hwang, M.**, Levine, M., Albers, D., & Mamykina, L. (2019, May). Personal Health Oracle: Explorations of Personalized Predictions in Diabetes Self-Management. In *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI 2019)*,

Glasgow, UK. <http://mariahwang.com/research.html>

Hwang, M., & Mamykina, L. (2018, Aug). Let Me Help You Learn from My Meal: User-Generated Meal Photos as a Benchmark for Nutritional Estimation. In the Extended Abstract of the *Connected Learning Summit* (CLS 2018). Boston, MA. <http://mariahwang.com/research.html>

Hwang, M. & Mamykina, L. (2017, May). Monster Appetite: Effects of Subversive Framing on Nutritional Choices in a Digital Game Environment. In *Proceedings of the ACM CHI conference on Human Factors in Computing Systems* (CHI 2017), Denver, CO. <http://mariahwang.com/game.html>

Hwang, M. & Mamykina, L. (2017, April). Monster Appetite: Effects of Message Framing on Nutritional Choices in a Digital Game Environment. In the Extended Abstract of *Annals of Behavioral Medicine*, San Diego, CA, (pp. S1519-S1520). Springer Press.

Hwang, M. (2016, April). Game based teaching for youth health: Testing a board game, Monster Appetite, for classroom implementation. *Proceedings of the American Educational Research Association* (AERA), Washington, D.C.

Kinzer, C., **Hwang, M.**, Chantes, P., Choi, A., & Hsu, S. (2015, July). Educational games: Insights for acceptance. In A. Ochsner,...C. Steinkueller (Eds.), in *Proceedings of Games+Learning+Society* (GLS). Madison, WI, ETC Press.

Santolucito, M. & **Hwang, M.** (2014, Aug). Communalizing the interfaces of single player games. In the Extended Abstract of the 7th *Digital Games Research Association* (DiGRA). Salt Lake City, UT.

Hwang, M., Chantes, P., & Santolucito, M. (2014, June). Raid the fridge!: Promoting healthy eating habits through the game Monster Appetite. In A. Ochsner,...C. Steinkueller (Eds.), in *Proceedings of Games+Learning+Society* (GLS). Madison, WI, (pp. 472-474). ETC Press.

Turkay, S., Hoffman, D., **Hwang, M.**, Chantes, P., Kinzer, C.,...Hsu, S. (2014, June). No hands needed: Investigating the affordances of using a Brain Computer Interface (BCI) as a game controller and its potential effect on learning and user experience. In A. Ochsner,...C. Steinkueller (Eds.), in *Proceedings of Games+Learning+Society* (GLS). Madison, WI, (pp. 235-241). ETC Press.

Hwang, M.,...de Luna, C. (2014, June). Play it with your mind: Investigating the affordances of using a Brain Computer Interface (BCI) as a game controller and its potential effect on learning and user experience. In *Proceedings of Teachers College Educational Technology Conference* (TCETC). New York, NY.

Hwang, M., Chantes, P., Tedaldi, G., & Lomboy, A. (2014, Jan). Monster Appetite: To eat or not to eat, that is the question. In R. Duncan, J. Bisz, F. Crocco, C. Hernandez, K. Offenholly,...M. Smalle. (Eds.). *Proceedings of the 1st Annual CUNY Games Festival*. New York, NY, (p. 23).

Hwang, M. (2013). Assessment of "Tale of the Tape." In N. Fletcher, A. Velamur, B. Waid, & A. Dimacali, (Eds.), *Mathematical modeling handbook II: The assessments*. Bedford, MA: COMAP.

Hwang, M., & Chantes, P. (2013, June). Monster Appetite: A board game targeting one nutritional aspect with one funky game mechanic. Presentation at the 9th *Annual Games for Health* (G4H). Boston, MA.

Hwang, M., Chantes, P., Tedaldi, G., & Lomboy, A. (2013, March). Promoting healthy eating

habits through Monster Appetite. In L. Gómez Chova, A. López Martínez, & I. Candel Torres (Eds.). In *Proceedings of the 7th annual International Technology, Education, and Development Conference (INTED)*, Valencia, Spain, (p. 2211).

Hwang, M., Chantes, P., Tedaldi, G., & Lomboy, A. (2012, May). Promoting Healthy Eating Habits through Monster Appetite. In *Proceedings of the Teachers College Educational Technology Conference (TCETC)*, p. 24. New York, NY.

Manuscripts in Preparation

Santolucito, M., Hoffman, D., **Hwang, M.**, & Paek, S. (2020). Using Wearables for Data Driven Decision Making in Education. In *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI 2020)*, Hawaii, USA. <http://mariahwang.com/research.html>

Mitchell, E., Burgermaster, M., Heitkemper, E., Levine, M., Yishen, M., **Hwang, M.**, Desai, P., Cassells, A., Tobin, J., Tabak, E., Smaldone, A., Albers, D., & Mamykina, L. (2020). GlucoGoalie: Personalized Goal Recommendations to Support Nutrition Decisions in Type 2 Diabetes Among Underserved Individuals. *Journal of the American Medical Informatics Association*. <http://mariahwang.com/research.html>

Hwang, M., Desai, P., Mitchell, E., & Mamykina, L. (2020). Feed Avatar Together. In *Proceedings of the ACM on Human Computer Interaction (PACM HCI)* (Computer-Supported Cooperative Wowrk, 2020). <http://mariahwang.com/research.html>

Awards and Honors

Office on Women's Health (OWH) Challenge, Dept of Health & Human Services

Research for Monster Appetite through the lens of women 2019

Grant funding provided for applicants who passed Phase 1 of the Shape of Health - An Obesity Prevention Game Competition.

<https://www.challenge.gov/challenge/shape-of-health-an-obesity-prevention-game/>

The Faculty Development Grants and Awards (FDGA)

Research for Feed Avatar Together 2019

Grant funding provided for faculty at Fashion Institute of Technology (FIT).

Grant from the School of Liberal Arts

ACM CHI 2019 Conference on Human Factors in Computing Systems 2019

Grant funding provided for faculty in the School of Liberal Arts at FIT.

The Faculty Development Grants and Awards (FDGA)

ACM CHI 2019 Conference on Human Factors in Computing Systems 2019

Grant funding provided for faculty at Fashion Institute of Technology (FIT).

Games and Learning Early Career Award

Games and Learning Early Career Workshop at Games for Change (G4C) 2017

An invitation and funding to attend the 14th G4H festival and Early Career Workshop.

Early Career Development Symposium Award

Early Career Development Symposium at ACM CHI 2017 Conference 2017

An invitation and funding to attend the 2nd CHI Early Career Development Symposium.

Doctoral Dissertation Grant

Columbia University 2016

Dissertation funding support provided by Doctoral Application for Grant-In-Aid Funding at Columbia.

TC International Scholarship*Columbia University**2015, 2016*

Stipend provided for doctoral students at Columbia.

Louis Gerstner Fund Scholarship*Columbia University**2014, 2016*

Stipend provided for doctoral students at Columbia.

Finalist for Academic Festival Student Research Poster Conference*Columbia University**April 2015*

Awarded to students who, in the eyes of Teachers College, has conducted the best research in their respective departments.

Best of Show Poster Award*10th Annual Games+Learning+Society Conference (GLS)**June 2014*

Awarded to the best team/individual with the poster that received the most votes from conference attendees on the day of the poster presentation.

TC General Scholarship*Columbia University**2011, 2012, 2013*

Scholarship provided for master and doctoral students at Columbia.

Travel Funding*Various**Multiple*

Travel Grants for attending conferences INTED 2013, G4H 2013, GLS 2013, DiGRA 2014, GLS 2014, SIGCHI 2017, G4C 2017, SIGCHI 2018, SIGCHI 2019.

Innovative Mobile Tech for Development Competition First Prize*Columbia University**2012*

Awarded to the best team that received the most points from a panel of judges selected by the New Media Task Force at the School of International and Public Affairs, Columbia.

Invited Talks

*Office on Women's Health (OWH), Washington DC**Nov 2019**"Monster Appetite through the Lens of Women"**Retail Marketing Society., New York, NY**Mar 2019**"How AI or Machine Learning is Changing the Fashion Industry"**SAT+ Summer Program with Culture Vision Education Inc., Woodbridge, CT**Aug 2017**"Iterative Design in Game Design Research"**Geumgang University, Nonsan, South Korea**June 2016*

Commencement speech: "What is an Alma Mater?"

Service

Reviewer—Conferences and Journals

Games+Learning+Society (GLS);

ACM Conference on Human Factors in Computing Systems (SIGCHI);

ACM SIGGRAPH

Connected Learning Summit (CLS);

American Educational Research Association (AERA);

Health Informatics Journal;

European Journal of Pediatrics;

PLOS ONE;

Creativity and Cognition;

TPC Member–Program Committee

Advances in Computer-Human Interactions (ACHI, 2020);

Community Service for Fashion Institute of Technology

Programming Digital Embroidery workshops (Workshop host: Oct & Nov 2019);

Gladys Marcus Award Interview (Interviewer: April, 2019);

Computer Science Fair (Represented FIT as one of the non-profit higher educational leaders: April, 2019)

Retail Marketing Society Talk (Keynote Presenter: Mar, 2019)

Interviewed for the annual report through the Communications and External Relations (CER, Spring 2019);

Hackathon, Bermuda (Keynote speaker: Dec, 2018; Dec, 2019 / featured in FIT News)

Emerging Technologies Committee (Committee Member: Fall, 2018 – Present);

Academic Open Mic (Presenter: Nov, 2018);

Flexible Learning Think Tank (Co-Chair: Spring, 2019 – Present);

Internal Review Board (Committee Reviewer: Fall, 2018 – Present);