

Leyla Norooz CV

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UX Research | Wearable Technology | Children's Technologies

EDUCATION

- 2012 – 2014 **MS, Human-Computer Interaction**, University of Maryland, College Park
MS Thesis: *BodyVis: Body Learning Through Wearable Sensing and Visualization*
- 2007 – 2011 **BS, Computer Science**, University of Maryland, College Park

HONORS AND AWARDS

- 2016** Facilitators Choice Award for our 2016 NSF [Video Showcase submission](#) on BodyVis—awarded to 13 of 156 video submissions (8.3%)
Best Poster Award at UMD iSchool Research Showcase for: *BodyVis: A New Approach to Body Learning Through Wearable Sensing and Visualization*. See [\[P.9\]](#) for citation.
- 2015** Best Talk at CHI 2015 for: *BodyVis: A New Approach to Body Learning Through Wearable Sensing and Visualization*. See [\[IT.3\]](#) video.
Best Paper Honorable Mention at CHI 2015 for: *BodyVis: A New Approach to Body Learning Through Wearable Sensing and Visualization*. See [\[C.4\]](#) for citation.
Best Paper Honorable Mention at CHI 2015 for: *Understanding the Role of Thermography in Energy Auditing: Current Practices and the Potential for Automated Solutions*. See [\[C.3\]](#) for citation.
Selected to attend the 2015 [CRA-W Grad Cohort Workshop](#).

EMPLOYMENT

- 2013 – 2019 **University of Maryland, College Park, Human-Computer Interaction Lab**
Graduate Research Assistant
- 2017 – 2018 **Philz Coffee, Adams Morgan, Washington, DC**
Barista
- Summer 2017 **Google, San Francisco, CA**
User Experience Research Intern, Android Wear
- Summer 2016 **Google, San Bruno, CA**
User Experience Research Intern, YouTube Kids
- 2012 – 2013 **University of Maryland, College Park, Division of Information Technology**
Graduate Assistant
- 2011 – 2012 **George Washington University, Division of Information Technology**
Systems Specialist

SKILLS

Legend: **Advanced**, *Intermediate*, *Beginner*

Qualitative Research

Structured & Semi-structured Interviews <in-home, on-site> | Participatory Design | Cooperative Inquiry | Observations | Frequency Analysis | Focus Groups | Usability Studies | Foundational Studies | Inductive and Deductive Analysis | Inter-rater Reliability | Protocol Development | Case Studies | Diary Studies | Concept Studies

Programming Languages

Arduino | HTML/CSS | Javascript/JQuery | Java | PHP | Processing

Software

Analysis: Dedoose | NVivo | SPSS

Other: Microsoft <PowerPoint, Word, Excel> | iMovie | Mendeley | Tinkercad/MakerWare/ReplicatorG | Adobe <Acrobat, Photoshop, Flash, Premiere, After Effects> | Axure

Hardware

Arduino <Uno, Leonardo, Micro, Tiny> | littleBits | MakeyMakey | SnapCircuits | Cubelets | Sifteo Cubes

Fabrication

Soldering | Electronic Textiles <conductive thread, conductive fabric> | Conductive Paint | Building Circuitry | Crafting <with fabric, thread, wire, adhesives, sewing machine>

CURRENT & PAST RESEARCH PROJECTS

BodyVis (2012 – 2022)

Lead researcher designing and investigating body learning activities around e-textile shirts that sense and visualize internal organs and their functions. Geared toward upper-elementary aged school children. See [C.4,6,8,12], [EA.1], [T.1], [IT.1-3,7,8], [P.1-9], [S.1] for items related to this project. Videos of this project located on [YouTube](#).

Kidsteam (2013 – 2019)

Co-researcher in an intergenerational cooperative inquiry (i.e., participatory design) team brainstorming, designing, and building technologies for children with children aged 7-11. See [C.1,9,11] for items related to this project.

Muslim Bloggers and Online Harassment (2017 – 2018)

Lead researcher investigating negative feedback and online harassment toward visibly female Muslim lifestyle bloggers. Interested in the various types of harassment these women receive as a result of their blogging, how they handle that harassment, and their views on being Muslim bloggers.

SharedPhys (2015 – 2016, Merged with BodyVis)

Co-researcher in designing and investigating a new mixed-reality tool that tightly integrates real-time physiological sensing, whole-body interaction, and responsive large-screen visualizations to support new forms of embodied interaction and collaborative learning. See [C.5] for items related to this project.

Adult & Child Search Habits (2015 – 2017)

Investigating adult and child Internet search roles. Lead researcher in running sessions with children to determine search roles in classroom settings. Co-researcher in in-home interviews with adults and analysis of data. See [C.7], [P.10-11] for items related to this project.

MakerShoe (Complete)

Assisted in running Kidsteam sessions for a project investigating new approaches to support younger children (K-4) in the creative design, play, and customization of e-textiles and wearables without requiring the creation of code. See [EA.2] for items related to this project.

REFEREED CONFERENCE PUBLICATIONS & EXTENDED ABSTRACTS

- 2020** [C.15] Kang, S., Shokeen, E., Byrne, V.L., **Noroocz, L.**, Bonsignore, E., Williams-Pierce, C., Froehlich, J.E. (2020, April). “ARMath: Augmenting Everyday Life with Math Learning.” In *Proceedings of the 38th Annual ACM Conference on Human Factors in Computing Systems (CHI)*, Honolulu, Hawaii (moved to fully virtual) [Acceptance Rate: 24.3%].
- 2019** [C.14] Kang, S., **Noroocz, L.**, Bonsignore, E., Byrne, V., Clegg, T., Froehlich, J.E. (2019, June). “PrototypAR: Prototyping and Simulating Complex Systems with Paper Craft and Augmented Reality.” In *Proceedings of the 18th ACM International Conference on Interaction Design and Children (IDC)*, Boise, Idaho [Acceptance Rate: TBD].
- 2018** [C.13] Horn, M., Danish, J., Humburg, M., Tu, X., Davis, B., Georgen, C., Enyedy, N., Blikstein, P., Clegg, T., Byrne, V.L., **Noroocz, L.**, Froehlich, J., Walker, J.T., Lui, D., Anderson, E., Bumbacher, E., Washington, P., & Riedel-Kruse, I. (2018, January). “Affordances of Digital, Textile and Living Media for Designing and Learning Biology in K-12 Education.” In *Proceedings of the 13th International Conference of the Learning Sciences (ICLS)*, London, UK [Acceptance Rate: 32%].
- [C.12] Byrne, V., Kang, S., **Noroocz, L.**, Velez, R., Katzen, M., Addeh, A., Froehlich, J.E., & Clegg, T. (2018, June). “Scaffolding Authentic Scientific Inquiry Experiences for Early Elementary Learners using Wearable Technology.” In *Proceedings of the 13th International Conference of the Learning Sciences (ICLS)*, London, UK [Acceptance Rate: 32%].
- [C.11] McNally, B., Kumar, P., Hordatt, C., Mauriello, M. L., Naik, S., **Noroocz, L.**, Shorter, A., Golub, E., & Druin, A. (2018, April). “Co-designing Mobile Online Safety Applications with Children.” In *Proceedings of the 36th Annual ACM Conference on Human Factors in Computing Systems (CHI)*, Montreal QC, Canada [Acceptance Rate: 26%].
- [C.10] Kang, S., **Noroocz, L.**, Byrne, V., Clegg, T., & Froehlich, J. E. (2018, March). “Prototyping and Simulating Complex Systems with Paper Craft and Augmented Reality: An Initial Investigation.” In *Proceedings of the Twelfth International Conference on Tangible, Embedded, and Embodied Interaction (TEI)*, Stockholm, Sweden [Acceptance Rate: 28%].
- 2017** [C.9] McNally, B., **Noroocz, L.**, Shorter, A., & Golub, E. (2017, June). “Toward Understanding Children’s Perspectives on Using 3D Printing Technologies in their Everyday Lives.” In Publication for *Proceedings of the 16th International Conference on Interaction Design and Children (IDC)*, Stanford, California [Acceptance Rate: 21%].
- [C.8] Clegg, T., **Noroocz, L.**, Kang, S., Byrne, V., Katzen, M., Valez, R., Plane, A., Oguamanam, V., Outing, T., Yip, J., Bonsignore, E., & Froehlich, J.E. (2017, May). “Live Physiological Sensing & Visualization Ecosystems: An Activity Theory Analysis.” In *Proceedings of the 35th Annual ACM Conference on Human Factors in Computing Systems (CHI)*, Denver, Colorado [Acceptance Rate: 25%].
- [C.7] Kim, J., McNally, B., **Noroocz, L.**, Druin, A. (2017, May). “Internet Search Roles of Adults in their Homes.” In Publication for *Proceedings of the 35th Annual ACM Conference on Human Factors in Computing Systems (CHI)*, Denver, Colorado [Acceptance Rate: 25%].
- 2016** [C.6] **Noroocz, L.**, Clegg, T.L., Kang, S., Plane, A.C., Oguamanam, V., & Froehlich, J.E. (2016, June). “‘That’s Your Heart!’: Live Physiological Sensing and Visualization Tools for Life-Relevant and Collaborative STEM Learning.” In *Proceedings of the The 12th International Conference of the Learning Sciences (ICLS)*, Singapore [[Download](#)].
- [C.5] Kang, S., **Noroocz, L.**, Oguamanam, V., Plane, A.C., Clegg, T.L., & Froehlich, J.E. (2016, June). “SharedPhys: Live Physiological Sensing, Whole-Body Interaction, and Large-Screen

Visualizations to Support Shared Inquiry Experiences.” In *Proceedings of the The 15th International Conference on Interaction Design and Children (IDC)*, Manchester, United Kingdom [Acceptance Rate: 47% | [ACM Link](#) | [Download](#)].

- 2015** [EA. 2] Kazemitabaar, M., **Norooz, L.**, & Froehlich, J.E. (2015, June). “MakerShoe: Towards an E-Textile Construction Kit to Support Creativity, Playful Making, and Self-Expression.” In *14th International Conference on Interaction Design and Children (IDC) Extended Abstracts, Demo Track*, Boston, Massachusetts [Acceptance Rate: 23% | [ACM Link](#) | [Download](#)].
- [C.4] **Norooz, L.**, Mauriello, M., McNally, B., Jorgenson, A., & Froehlich, J.E. (2015, April). “BodyVis: A New Approach to Body Learning Through Wearable Sensing and Visualization.” In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI)*, Seoul, Korea [Acceptance Rate: 23% | **BEST PAPER HONORABLE MENTION – TOP 5%** | [Video Supplement](#) | [ACM Link](#) | [Download](#)].
- [C.3] Mauriello, M., **Norooz, L.**, & Froehlich, J.E. (2015, April). “Understanding the Role of Thermography in Energy Auditing: Current Practices and the Potential for Automated Solutions.” In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI)*, Seoul, Korea [Acceptance Rate: 23% | **BEST PAPER HONORABLE MENTION – TOP 5%** | [ACM Link](#) | [Download](#)].
- 2014** [C.2] McNally, B., Guha, M. L., **Norooz, L.**, Rhodes, E., & Findlater, L. (2014, June). “Incorporating Peephole Interactions into Children's Second Language Learning Activities on Mobile Devices.” In *13th International Conference on Interaction Design and Children (IDC)*, Aarhus, Denmark [Acceptance Rate: 30% | [ACM Link](#) | [Download](#)].
- 2013** [C.1] Yip, J., Foss, E., Bonsignore, E., Guha, M., **Norooz, L.**, Rhodes, E., McNally, B., Papadatos, P., Golub, E., and Druin, A. (2013, June). “Children Initiating and Leading Cooperative Inquiry Sessions.” In *12th International Conference on Interaction Design and Children (IDC)*, New York, NY [Acceptance Rate: 33% | [ACM Link](#) | [Download](#)].
- [EA. 1] **Norooz, L.**, & Froehlich, J.E. (2013, June). “Exploring Early Designs for Teaching Anatomy and Physiology to Children Using Wearable E-Textiles.” In *12th International Conference on Interaction Design and Children (IDC) Extended Abstracts, Demo Track*, New York, NY [Acceptance Rate: 33% | [ACM Link](#) | [Download](#)].

SYMPOSIA

- 2019** [S.1] **Norooz, L.**, Clegg, T., Byrne, V., Kang, S., & Froehlich, J.E. (2019). “Supporting Children in Body Learning via Wearable Technology Design Experiences.” Submitted to Symposium at *American Education Research Association Conference (AERA)*, Toronto, Canada.

THESES

- 2014** [T.1] **Norooz, L.** (2014). *BodyVis: Body Learning Through Wearable Sensing and Visualization*. Master's Thesis, University of Maryland, College Park [[Download](#)].

INVITED TALKS AND CONFERENCE PRESENTATIONS

- 2017** [IT.8] **Norooz, L.** “Designing Wearable Technologies, and the Experiences Around Them, for Children's Body Learning.” *UMBC Human-centered Computing Fika Group*, Baltimore, MD, April 24, 2017.

- 2016** [IT.7] **Norooz, L.** “‘That’s Your Heart!’: Live Physiological Sensing and Visualization Tools for Life-Relevant and Collaborative STEM Learning.” *The International Conference of the Learning Sciences (ICLS)*, Singapore, June 20-24, 2016.
- 2015** [IT.6] **Norooz, L.** “The Technology of Our Children's Future.” University of Maryland, *EDCI470*, College Park, MD, December 2, 2015.
- [IT.5] **Norooz, L.** “The Technology of Our Children's Future.” *Riderwood Village Senior Living*, Silver Spring, MD, November 16, 2015.
- [IT.4] **Norooz, L.** “Making Makers to Make Makers.” *Anita Borg Institute Grace Hopper Celebration of Women in Computing*, Houston, TX, October 14-16, 2015.
- [IT.3] **Norooz, L.** “BodyVis: A New Approach to Body Learning Through Wearable Sensing and Visualization.” *ACM Conference on Human Factors in Computing Systems (CHI)*, Seoul, Korea, April 18-23, 2015. [[Video](#)]
- 2014** [IT.2] **Norooz, L.** “BodyVis: A Wearable, E-textile, Auto-sensing Shirt for Teaching Anatomy and Physiology to Children.” *31st Annual HCIL Symposium*, College Park, MD, May 29, 2014.
- 2013** [IT.1] **Norooz, L.** “A Tangible Interactive Shirt for Teaching Anatomy and Physiology to Children.” *30th Annual HCIL Symposium*, College Park, MD, May 22, 2013. [[Video](#)]

POSTER PRESENTATIONS

- 2017** [P.11] **Norooz, L.** “Toward the Rapid Identification of Children’s Internet Search Roles.” *UMD HCIL’s 34th Annual Symposium*.
- [P.10] **Norooz, L.** “Toward the Rapid Identification of Children’s Internet Search Roles.” *UMD iSchool Research Showcase*.
- 2016** [P.9] **Norooz, L.** “BodyVis: A New Approach to Body Learning Through Wearable Sensing and Visualization.” *UMD iSchool Research Showcase*.
- [P.8] **Norooz, L.** “BodyVis: A New Approach to Body Learning Through Wearable Sensing and Visualization.” *UMD HCIL’s 33rd Annual Symposium*.
- 2015** [P.7] **Norooz, L.** “BodyVis: A New Approach to Body Learning Through Wearable Sensing and Visualization.” *UMD iSchool 50th Anniversary Celebration*.
- [P.6] **Norooz, L.** “BodyVis: A New Approach to Body Learning Through Wearable Sensing and Visualization.” *CRA-W Grad Cohort Workshop*.
- [P.5] **Norooz, L.** “BodyVis: A New Approach to Body Learning Through Wearable Sensing and Visualization.” *UMD HCIL’s 32nd Annual Symposium*.
- 2014** [P.4] **Norooz, L.** “BodyVis: A New Approach to Body Learning Through Wearable Sensing and Visualization.” *UMD HCIL’s 31st Annual Symposium* (2014, May)
- 2013** [P.3] **Norooz, L.** “BodyVis: A Wearable, E-textile, Auto-sensing Shirt for Teaching Anatomy and Physiology to Children.” *Silver Spring Mini Maker Faire*.
- [P.2] **Norooz, L.** “BodyVis: A Wearable, E-textile, Auto-sensing Shirt for Teaching Anatomy and Physiology to Children.” *UMD HCIL’s 30th Annual Symposium*.
- [P.1] **Norooz, L.** “BodyVis: A Wearable, E-textile, Auto-sensing Shirt for Teaching Anatomy and Physiology to Children.” *ACM Interaction Design & Children (IDC)*.

PAPER AND POSTER PEER REVIEWS

- 2018** Full Paper Review, *Interaction Design & Children* (IDC)
 Short Paper Review, *International Conference on Learning Sciences* (ICLS)
 Poster Review, *International Conference on Learning Sciences* (ICLS)
- 2016** Full Paper Review, *Designing Interactive Systems* (DIS)
 Extended Abstract Review, *Computer-Human Interactions* (CHI)
- 2015** Extended Abstract Review, *Tangible, Embedded, and Embodied Interaction* (TEI)
- 2014** Poster Review, *Interaction Design & Children* (IDC)

SELECTED MEDIA COVERAGE

- June 2018 [Technology for teachers: High-tech tools are incorporated into education](#), Elizabeth Levy Malis, The Baltimore Sun
- April 2016 [Research Spotlight—Leyla Norooz, Winner of the Research Showcase Prize for Best Poster](#), UMD iSchool News
- October 2014 [A Hackerspace, from A to Tee](#), Lauren Brown, Terp Magazine
- April 2014 **What We Make**, Between the Columns Magazine

PROFESSIONAL ACTIVITIES/SERVICE

Design Advisor

- 2016 • UMD Center for Young Children, Co-designed with 4-year old children to design a child-friendly sign describing a newly renovated rain garden (Feb)
- 2016 • White House collaboration with KidsTeam to redesign the White House Visitor Center
- 2015 • National Park Service, Grand Teton National Park Visitor Center Redesign (Summer)
- White House collaboration with KidsTeam to design *Every Kid in a Park* website (Summer)

Services at the University of Maryland

- 2018 • Panel member discussing co-design with children for *INST 652: Design Thinking and Youth*, School of Information Studies, University of Maryland (Oct)
- Presented my research and its contribution to the HCIL to Adobe Systems (Mar)
- 2017 • Panel member discussing co-design with children for *INST 652: Design Thinking and Youth*, School of Information Studies, University of Maryland (Oct)
- Panel member discussing internship opportunities for iSchool graduate students (Oct)
- Demoed BodyVis to new students in an Intro to HCI course (Oct)
- Student liaison for Google UXR employees visiting UMD for the iSchool's Internship and Networking fair (Nov)
- 2015 – 2016 • As a UMD HCIL Brown Bag Lunch Series Coordinator, I scouted speakers, organized talks, coordinated meals, and became a liaison to external speakers.
- 2015 • Demoed BodyVis to CompSciConnect, a CS summer camp for middle school girls, undergraduate summer research interns from the National SocioEnvironmental Synthesis Center (SESYNC), and Spark Elementary School students.