

Majeed Kazemitabaar

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WORK & RESEARCH EXPERIENCES

- University of Toronto**
Graduate Research Assistant
Teacher Assistant
- Sep 2020 – Present
Working with [Prof. Tovi Grossman](#) to develop scalable, intelligent, and personalized learning experiences for computing education. Focusing on the intersection of HCI, AI, and CS Education.
- Microsoft Research, Cambridge**
Research Intern
- June 2023 – Aug 2023
Worked with [Jack Williams](#) in the [Calc Intelligence](#) group to design, build, and evaluate new user experiences when interacting with Large Language Models for data analysis tasks.
- Metrix**
Software Engineer
- Sep 2017 – Sep 2020
Developed big-data analysis and storage pipelines, user segmentation pipelines and query builders, and data aggregation pipelines.
- Microsoft Research, Redmond**
Research Intern
- May 2017 – Aug 2017
Worked with [Rob DeLine](#) and [Tom Ball](#) to extend [MS MakeCode](#) with a programming by demonstration pipeline that enabled children to incorporate machine-learning into their programs as an alternative method to writing code.
- University of California, Berkeley**
Visiting Student Researcher
- Jan 2017 - April 2017
Worked with [Prof. Björn Hartmann](#) on the development and evaluation of an embedded system development environment that illuminated the boundary between embedded code and circuits for improved debugging UX.
- University of Maryland, College Park**
Graduate Research Assistant
Teacher Assistant
- Aug 2014 – May 2017
I worked with [Prof. Jon Froehlich](#) in the [Makeability Lab](#) to design, build, and evaluate an interactive wearable construction kit that enables young kids to create personally meaningful computational designs and leverage the richness of wearability: the changing environments, their body movements, and social interactions.

EDUCATION

- University of Toronto**
Area: PhD Thesis:
PhD Thesis:
- Sep 2020 – Present
Ph.D. in Computer Science
Human-Computer Interaction, Computer Science Education; **Advisor: Prof. Tovi Grossman**
Design, implementation, and evaluation of engaging and effective computational learning experiences
- University of Maryland, College Park**
Area: MS Thesis:
MS Thesis:
- Aug 2014 – Aug 2017
M.Sc. in Computer Science
Human-Computer Interaction, Learning Technologies; **Advisor: Prof. Jon Froehlich**
MakerWear: A Tangible Construction Kit for Young Children to Create Interactive Wearables
- Sharif University of Technology**
Area: BS Thesis:
BS Thesis:
- Sep 2011 - Jun 2014
B.Sc. in Computer Engineering
Human-Computer Interaction, Robotics, Hardware Design
A Markerless Augmented Reality System using Transparent Displays

PUBLICATIONS

- CHI'24**
Proceedings
- Kazemitabaar, M.,** Ye, R., Wang, X., Henley, A., Denny, P., Craig, M., Grossman, T. (2023) “CodeAid: Evaluating a Classroom Deployment of an LLM-based Programming Assistant that Balances Student and Educator Needs” In Proceedings of the ACM 2024 Conference of Human Factors in Computing Systems.
- Koli Calling'23**
Proceedings
- Kazemitabaar, M.,** Hou, X., Henley, A., Ericson, B., Weintrop, D., Grossman, T. (2023) “How Novices Use LLM-Based Code Generators to Solve CS1 Coding Tasks in a Self-Paced Learning Environment” In Proceedings of the ACM 2023 Koli Calling International Conference on Computing Education Research.
- CHI'23**
Proceedings
- Kazemitabaar, M.,** Chow, J., Ma, C., Ericson, B., Weintrop, D., Grossman, T. (2023) “Studying the effect of AI Code Generators on Supporting Learners in Introductory Programming” In Proceedings of the ACM 2023 Conference of Human Factors in Computing Systems.
- SIGCSE'23**
Proceedings
- Kazemitabaar, M.,** Chyhir, V., Weintrop, D., Grossman, T. (2023) “Scaffolding Progress: How Structured Editors Shape Novice Errors When Transitioning from Blocks to Text” In Proceedings of the ACM Technical Symposium on Computer Science Education.
- IDC'22**
Proceedings
- Kazemitabaar, M.,** Chyhir, V., Weintrop, D., Grossman, T. (2022) “CodeStruct: Design and Evaluation of an Intermediary Programming Environment for Novices to Transition from Scratch to Python” In Proceedings of the Conference on Interaction Design and Children.

- UIST'17** Proceedings McGrath, W., Warner, J., Drew, D., **Kazemitabaar, M.**, Karchemsky, M., Mellis, D., and Hartmann, B. (2017) *"Bifröst: Visualizing and Checking Behavior of Embedded Systems across Hardware and Software"* In Proceedings of 30th Annual ACM Symposium on User Interface Software and Technology
- ICER'17** Workshop **Kazemitabaar, M.**, and DeLine, R. (2017) *"GestureBlocks: A Gesture Recognition Toolkit for Children"* Presented at the 2017 Conference on International Computing Education Research: Workshop on Research on Learning about Machine Learning
- CHI'17** Proceedings **Kazemitabaar, M.**, McPeak, J., Jiao, A., He, L., Outing, T., and Froehlich, J. (2017) *"MakerWear: A Tangible, Approach to Wearable Creation for Children"* In Proceedings of the 2017 Conference on Human Factors in Computing Systems. **Best Paper Winner** (top 1%)
- CHI'16** Extended Abstracts **Kazemitabaar, M.**, He, L., Wang, K., Aloimonous, C., Cheng T. and Froehlich, J., (2016) *"ReWear: Early Explorations of a Modular Wearable Construction Kit for Young Children"* In Proceedings of the 2016 Conference Extended Abstracts on Human Factors in Computing Systems. **Best Late-Breaking Work Paper** (top 1%)
- IDC'15** Demo **Kazemitabaar, M.**, Norooz, L., Guha, ML., and Froehlich, J. (2015) *"MakerShoe: Towards an E-Textile Construction Kit to Support Creativity, Playful Making, and Self-Expression"* In Proceedings of the Conference on Interaction Design and Children.
- SAC'14** Proceedings Boghrati, R., Heydarnoori, A. and **Kazemitabaar, M.** (2014) *"Activities performed by programmers while using framework examples as a guide"* In Proceedings of the 2014 Symposium on Applied Computing.

AWARDS AND HONORS

- May 2017 **CHI2017 Best Paper Award** for *MakerWear*
 Sep 2016 Selected as one of the four **"Inventors in our Midst"** at the 2016 Silver Spring Maker Faire
 May 2016 **CHI2016 Best Late-Breaking Work Award** for *ReWear*
 May 2015 **Top Maker Award** at the *Tangible Interactive Computing Course*

PRESS COVERAGE

- March 2023 AI code generators could make learning to code easier for young students, new research shows.
 UofT CompSci <https://web.cs.toronto.edu/news-events/news/ai-code-generators-for-programming-education>

GRANTS AND RESEARCH AWARDS

- LEAF+ Generative AI** Deployment of LLM-based Personal Coding Assistants that Balance Helpfulness and Directness
 Lead Graduate Student *Learning and Education Advancement Fund Plus: Generative Artificial Intelligence in Teaching and Learning.*
 \$10,000 Principal Investigator: **Prof. Tovi Grossman**
 Lead Graduate Student: **Majeed Kazemitabaar**
- NSF Career Award** A Tangible-Graphical Approach to Engage Young Children in Wearable Design
 Lead Graduate Student *NSF Career Award #1834629*
 \$541,016 Principal Investigator: **Prof. Jon Froehlich**
 Lead Graduate Student: **Majeed Kazemitabaar**

PROFESSIONAL SERVICES

- Reviewer** ACM Human Factors in Computing (CHI), 2024 [**Outstanding Review Award**]
 ACM Human Factors in Computing (CHI), 2023 [**Outstanding Review Award**]
 ACM User Interface and Software Technology (UIST), 2022 [**Outstanding Review Award**]
 ACM Tangible and Embodied Interactions (TEI), 2018
 ACM Interaction Design and Children (IDC), 2018
 ACM Human Factors in Computing Systems (CHI), 2017
- Student Volunteer** ACM Human Factors in Computing Systems (CHI), 2016

SELECTED TALKS

- Design Field Notes** **Kazemitabaar, M.**, (2017) *"MakerWear: A Tangible Approach to Interactive Wearable Creation For Children"* Jacobs Institute of Design, Berkeley, CA, March 7th, 2017
 Mar 2017
- Tehnica: Tech + Design** **Kazemitabaar, M.**, Behnezhad, S., Saha, M., He, L., (2016) *"Interaction Design for a Purpose"* 2nd All-Women Hackathon, College Park, MD, Nov 3rd, 2016
 Nov 2016
- Maker Faire Silver Spring** **Kazemitabaar, M.**, (2016) *"MakerWear: A Tangible, Modular Approach for Children to Create Interactive Wearables"* 4th Silver Spring Maker Faire, Silver Spring, MD, Sep 25th, 2016
 Sep 2016
- HCIL Symposium** Froehlich, J. and **Kazemitabaar, M.**, (2016) *"MakerWear: Early Explorations of Wearable Construction Kits for Children"* 33rd Annual HCIL Symposium, College Park, MD, May 26th, 2016
 May 2016
- HCIL Symposium** **Kazemitabaar, M.** (2015) *"MakerShoe: Towards an E-Textile Construction Kit to Support Creativity, Playful Making, and Self-Expression"* 32nd Annual HCIL Symposium, College Park, MD, May 28th, 2015
 May 2015

MENTORSHIP

Undergraduate Advisees

Fall 2023

- Oliver Huang, Computer Science, University of Toronto (Class of 2024)
- Chase McDougall, Engineering Science, University of Toronto (Class of 2024)

Summer 2023

- Harry Ye, Computer Science, University of Toronto (Class of 2024)
- Oliver Huang, Computer Science, University of Toronto (Class of 2024)

Summer 2022

- Justin Chow, Engineering Sciences, University of Toronto (Class of 2025)
- Carl Ma, Engineering Sciences, University of Toronto (Class of 2025)

Summer 2021

- Viktor Chyhir, Computer Science, University of Toronto (Class of 2022)

Summer 2016

- Jason McPeak, Computer Engineering, University of Maryland (Class of 2017)
- Alex Jiao, Electrical and Computer Engineering, University of Maryland (Class of 2019)

Summer 2015

- Tony Cheng, Computer Science, University of Maryland (Class of 2018)
- Katie Wang, Computer Science, University of Maryland (Class of 2018)

TEACHING EXPERIENCE

Teaching Assistant

Danny Heap

Fall 2022

- **CSC263 - Data Structures and Analysis**

Teaching Assistant

Mark Kazakevich

Fall 2021

- **CSC309 - Web Programming (JavaScript, React)**

Teaching Assistant

Dr. Pedram Sadeghian

Spring 2016 & Spring 2015

- **Intro to Web Programming (HTML/CSS/JavaScript)**, 60 students (Spring'16), 70 students (Spring'15)

Fall 2015

Inst. Larry Herman

- **Intro to Computer Systems (C Programming)**, 67 students

Fall 2014

Dr. Vibha Sazawal, Dr. Alireza Ajdari

- **Human-Computer Interaction**, 60 students (Fall 2014), 50 students (Spring 2013)

Fall 2013

Dr. Shohreh Kasaei

- **3D Computer Vision**, 15 students

Spring 2011 & Fall 2010

Dr. Hamidreza Pourreza

- **Electric Circuits**, 58 students (Spring 2011), 81 students (Fall 2010)

Summer 2011 & Fall 2010

Instructor

- **Programming AVR microcontrollers**, 26 students (Summer 2011), 14 students (Fall 2010)