

## EKTA SHOKEEN

[eshokeen@umd.edu](mailto:eshokeen@umd.edu)  
Mechanicville, NY 12118

I am a passionate and reflective practitioner with researching about critical issues in Design & Development of technological tools. Over the course of my last 11 years of academic experiences in higher education, I have developed a deep understanding of a wide range of qualitative and user experience research methods.

**Qualitative Methods:** Grounded Theory, Case Studies, Surveys, Ethnography, Focus Groups, Interviews. Skilled in using Qualitative Analysis software- MAXQDA, Dedoose, Nvivo.

**UX Research Methods:** User-Centered Design, Contextual Inquiry, Usability Testing, A/B testing etc.

## FORMAL EDUCATION

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Aug. 2019 – Present	<b>Doctoral Candidate in Information Studies</b> College of Information Studies University of Maryland, College Park Thesis Title: <i>Understanding Youth Sketching Experiences in STEM Design Activities.</i> Committee Members: Dr. Caroline Williams-Pierce (Chair), Dr Mega Subramaniam, Dr Elizabeth Marie Bonsignore, Dr Diane Jass Ketelhut, Dr Amber M Simpson.
Aug. 2018 – July 2019	<b>PhD student in Curriculum and Instruction</b> State University of New York, Albany Department of Education Theory and Practice College of Education Advisor: Dr. Caroline Williams-Pierce (Transferred to University of Maryland upon invitation from advisor)
July. 2015 – May 2017	<b>M.A. in Education</b> Tata Institute of Social Sciences Departments of Education Advisor: Dr. Jayasree Subramanian Thesis Title: <i>Using Digital Technology for Teaching Elementary Concepts in Geometry: An Exploration</i>
July 2011- May 2015	<b>Bachelor of Elementary Education</b> University of Delhi, Jesus and Mary College Department of Education

## AWARDS AND SCHOLARSHIP

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<b>Sept 30, 2021</b>	Doctoral Student Research Award (\$1000)
<b>Sept 25, 2020</b>	1 <sup>st</sup> Place Winner - <a href="#">HEX -The Turtle of Islands</a> of the “In Development Games”, category at the 8th International Educational Games Competition (IEGC). Hosted by the 14 <sup>th</sup> European Conference on Game Based Learning (ECGBL’20)
<b>2019-2020</b>	Helen A. Tegnell Scholarship (\$5000)
<b>Fall 2019</b>	Dr. Dana Rotman Doctoral Student Travel Award (\$1000)

## PROFESSIONAL AFFILIATION

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Updated on 9/20/2022

- ACM CHI Conference on Human Factors in Computing Systems (ACM SIGCHI)
- ACM CHI Conference on Player Computer Interaction (CHIPLAY)
- International Society of Learning Sciences (ISLS)
- Connected Learning Submit (CLS)
- American Educational Research Association (AERA)
- Psychology of Mathematics Education International and North American Chapter. (PME NA)
- Learning Science Graduate Student Conference (LSGSC) 2021.

## **PROFESSIONAL VOLUNTEERING RESPONSIBILITIES**

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2021-22                      Elected as Student Representative Member in Doctoral Committee at iSchool.  
 Fall 2021                    Student Volunteer in organizing committee of CHIPLAY 2021.

## **REVIEWER FOR PROFESSIONAL CONFERENCE/JOURNAL**

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1. ACM CHI Conference on Human Factors in Computing Systems, 2020, 2021, 2022.
2. ACM CHI Conference on Player Computer Interaction (CHIPLAY), 2021, 2022.
3. ACM Interaction Design and Children (IDC) conference 2020, 2022.
4. International Society of Learning Sciences (ISLS) conference 2021, 2022.
5. Learning Science Graduate Student Conference (LSGSC) 2021.

## **SELECTIVE PROFESSIONAL WORKSHOP**

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**Sept. 25-26, 2021**      Embodied Mathematical Imagination and Cognition: Professional Development for Undergraduate Mathematics Instructors. Held Virtual [EMIC II](#)

**July 6, 2021**              Connected Learning Summit 2021. [CLS 2021](#)

**May 20-22, 2019**        Synthesis and Design Workshop: The future of Embodied Design for Mathematical Imagination and Cognition. Held at University of Wisconsin – in Madison, WI, USE [EMIC I](#)

## **RESEARCH POSITIONS**

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Jan. 2020 – Present                    **Graduate Research Assistant**, Dr. Michel Cukier & Dr. David Weintrop  
*Institute for Advanced Computer Studies, University of Maryland,*  
 Currently working on grant titled, “**Increasing the Interest of Students from Underrepresented Populations for Cybersecurity**” funded by *US Federal Government, Department of Defense.*  
 In this project goal is to develop a [videogame](#) to increase youth (10-14 yrs.) interest in cybersecurity concepts. My involvement includes designing study, data collection from participants and analyzing to inform insights to design team. Additionally, submitting proposals into conference proceedings, journals to share the learning from the Design Based Research with the researchers.

June 2019 – July 2021                    **Graduate Research Assistant**, Williams-Pierce, P.I.  
*College of Information Studies, University of Maryland, College Park*  
 Worked on analyzing data involving youth participation in making activities of Makerspaces. Also, worked on various literature reviews within videogames–

Conceptual Review of Problem Solving, Embodied Cognition etc.  
My involvement has included improving design of augmented reality research tool, planning and conducting research, video data coding and analysis, as well as conference proposal.

Aug 2018 –  
May 2019

**Graduate Research Assistant**, Williams-Pierce, P.I.  
*University at Albany – SUNY*

My involvement has included book editing, research project planning, conducting structured action experiments, video data coding and analysis, as well as conference proposal and manuscript preparation and conference presentations.

Aug. 2019 –  
Present

**Research Team Member**,  
*Youth Experience Lab*

College of Information Studies, University of Maryland – College Park

April, 2017-  
June, 2018

**Curriculum Developer and Instructional Designer**

Robotics Wizards,  
New Delhi, India

My involvement included developing STEM based curriculum and textbooks for elementary graders; doing focused research on evaluating the effectiveness of various educational kits like Lego Education, K'nex Education etc; developing content and training manuals for teachers to assist them in classroom pedagogy; conducting teacher's training.

June-July 2016

**Visiting Researcher**

Homi Bhabha Centre for Science Education,  
TIFR Mumbai, India

My involvement included developing Mathematics Laboratory Manual and conducting workshop for Secondary Mathematics teachers on the use of different resources for teaching mathematics.

Nov.-Dec., 2015

**Visiting Scholar**

DIGANTAR, *An Alternative School*  
Rajasthan, India

My involvement included preparing an analytical report based on classroom observations, attending Teacher's Meeting, Parent's Teacher Meeting, interacting with students, teachers and parents, doing community visits.

## **PEER-REVIEWED JOURNAL PUBLICATIONS**

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- [9] **Shokeen, E.**, Katirci, N., Simpson, A., & Williams-Pierce, C (in preparation). *Youth Embodied Communication and Collaboration within a Making Robotic Activity*. Venue of submission YTD.
- [8] **Shokeen, E.**, Katirci, N., Williams-Pierce, C. & Simpson, A., (in preparation). *The Problem with 'Problem Solving' in 'Video Games': A Systematic Review*. Venue of submission YTD.
- [7] **Shokeen, E.**, Pellicone A., Weintrop D., Ketelhut D. J., Cukier M, Plane J. D., & Williams-Pierce, C. (in submission). *Youth Approaches to solving puzzles in Videogame*. Submitted to [International Journal of Child-Computer Interaction \(ijCCI\)](#).

- [6] **Shokeen E.**, Weintrop D., Pellicone A., Moon P. F., Ketelhut D. J., Plane J. D., & Cukier M. (in preparation). *Defining Perplexity and Reflective Thinking in a Game-based Learning Environment*. To be submitted to the Journal of [Information and Learning Sciences \(ILS\)](#).
- [5] Williams-Pierce, C., Simpson, A., Katirci, N., **Shokeen, E.**, & Bih J. (in preparation). “*It’s mathematics all the way down: Revealing mathematical activity in non-formal learning spaces*”. To submit to the International Journal of Mathematics Education, [For the Learning of Mathematics \(FLM\)](#).
- [4] Simpson, A., **Shokeen, E.**, Katirci, N., & Williams-Pierce, C (in preparation) *Multiple Representations of Angles during an Educational Robotics Task*. To be submitted to [Cognition and Instruction](#).
- [3] **Shokeen, E.**, Katirci, N., & Williams-Pierce, C., & Bonsignore, E., (2022). *Children Learning to Sketch: Sketching to learn*. [Information and Learning Sciences](#), Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/ILS-03-2022-0023>
- [2] Pellicone, A., Weintrop, D., Ketelhut, D. J., **Shokeen, E.**, Cukier, M., Plane, J. D., & Rahimian, F. (2022). *Playing Aloud: Leveraging Game Commentary Culture for Playtesting*. International Journal of Gaming and Computer-Mediated Simulations (*IJGCMS*), 14(1), 1-16. <https://www.igi-global.com/article/playing-aloud/296705>
- [1] Wood R., Dixon E., Elsayed-Ali S., **Shokeen E.**, Lazar A., & Lazar J. (2021, July 21) *Investigating Best Practices for Remote Summative Usability Testing with People with Mild to Moderate Dementia*. ACM Transactions on Accessible Computing Journal (TACCESS). <https://dl.acm.org/doi/abs/10.1145/3460942>

## PEER-REVIEWED PROCEEDINGS

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CHI, CHIPLAY, ICLS, PME-NA and others

- [10] Wood R., Dixon E., Elsayed-Ali S., **Shokeen E.**, Lazar A., & Lazar J. (Accepted). *Exploring Future Personalization Opportunities in Technologies used by Older Adults with Mild to Moderate Dementia*. In Proceedings of 2022 The Hawaii International Conference on System Sciences (HICSS).
- [9] Simpson A., Williams-Pierce C., **Shokeen E.**, Katirci N., Soto H., Baker J., DeLiema D., Kapur M., Ellis A., Lockwood E., Plaxco D., Alibali M. and Ramirez D. (June, 2022). *The Nature(s) of Embodied Mathematical Failure*. Symposium presented in the 2022 International Conference of the Learning Sciences (ICLS). <https://2022.isls.org/proceedings/>
- [8] **Shokeen E.**, Weintrop D., Pellicone A., Moon P. F., Ketelhut D. J., Plane J. D., & Cukier M. (June, 2022). “*The Game was Designed to Learn to Think*” – *Player Perceptions of Learning in an Educational Game*. Published in the In Proceedings of the 2022 International Conference of the Learning Sciences (ICLS) (pp. 1081-1085). <https://2022.isls.org/proceedings/>
- [7] **Shokeen, E.**, Simpson, A., Katirci, N., & Williams-Pierce, C (2021, Oct.) *Use of Zig-zag to Represent Mathematical Thinking about Angle*. In the 43<sup>rd</sup> annual proceeding of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA).
- [6] Williams-Pierce, C, Katirci, N., Simpson, A., **Shokeen, E.**, & Bih J. (2021, Oct.) *Revealing Mathematical Activity in Informal Learning Spaces*. In the 43<sup>rd</sup> annual proceeding of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA).

- [5] **Shokeen E.**, Pellicone A., Weintrop D., Ketelhut D. J., Williams-Pierce, C., Plane J. D., & Cukier M. (2021, June). *An Iterative Design Cycle: Using Productive and Unproductive Frustration to Guide Re-Design*. Published in the Proceedings of the 2021 International Conference of the Learning Sciences (ICLS) (pp. 957-958). <https://2021.isls.org/proceedings/>
- [4] Simpson, A., Katirci, N., **Shokeen, E.**, Bih J., & Williams-Pierce, C. (2021, June) *Representation Fluency of Angle during an Educational Robotics Task*. In Proceedings of the 2021 International Conference of the Learning Sciences (ICLS) (pp. 529 -532). <https://2021.isls.org/proceedings/>
- [3] **Shokeen, E.**, Katirci, N., Bih J., Simpson, A., & Williams-Pierce, C. (2020, Nov). *Unpacking Mathematical Play within Makerspaces using Embodied Cognition*. In Proceedings of the 2020 Annual Symposium on Computer-Human Interaction in Play (CHIPLAY). <https://dl.acm.org/doi/10.1145/3383668.3419909>
- [2] **Shokeen E.**, Pellicone A., Weintrop D., Ketelhut D. J., Williams-Pierce, C., Plane J. D., & Cukier M. (2020, Nov). *Designing Failure and Feedback within Puzzles*. In Proceedings of the 2020 Annual Symposium on Computer-Human Interaction in Play (CHIPLAY). <https://dl.acm.org/doi/10.1145/3383668.3419901>
- [1] Kang, S., **Shokeen, E.**, Byrne, V. L., Norooz, L., Bonsignore, E., Williams-Pierce, C., & Froehlich, J. E. (2020, April). *ARMath: Augmenting Everyday Life with Math Learning*. In Proceedings of the 2020 Conference on Human Factors in Computing Systems (CHI) (pp. 1-15). <https://dl.acm.org/doi/10.1145/3313831.3376252>

## **PEER-REVIEWED CONFERENCE PRESENTATIONS**

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AERA, ECGBL, EMIC, ASSETS and others

- [17] **Shokeen E.**, *Unpacking Youth Sketching Skills in STEM Design*. (In Submission) Submitted to the 2023 American Educational Research Association Annual Meeting and Exhibition (AERA).
- [16] Pellicone A., **Shokeen E.**, Moon P., Weintrop D., Ketelhut D. J., Plane J. D., & Cukier M. (Accepted) *"It Just Felt More Like a Pyramid" - Narrative and Concept in Game-based Learning Puzzles*. To be presented to International Conference on [Meaningful Play](#) 2022.
- [15] Pellicone A., Ketelhut D. J., **Shokeen E.**, Weintrop D., Plane J. D., & Cukier M. (Accepted, 2022, Oct.). *Designing a Game to Promote Equity in Cybersecurity*. To be presented as an academic paper at 16th European Conference on Games Based Learning (ECGBL), Lisbon, Portugal.
- [14] Katirci, N., **Shokeen, E.**, Simpson, A., & Williams-Pierce, C. (2022, April). *Attending to the missing role of gestures in Representational Fluency*. Presented at the 2022 American Educational Research Association Annual Meeting and Exhibition (AERA).
- [13] **Shokeen, E.**, Williams-Pierce, C & Katirci, N. (2022, April). *Reflective Thinking: A learning process within gameplay*. Presented at the 2022 American Educational Research Association Annual Meeting and Exhibition (AERA).
- [12] **Shokeen, E.**, Katirci, N., Simpson, A., & Williams-Pierce, C (2022, April). *Embodied Communication and Collaboration within Making Activities*. Presented at the 2022 American Educational Research Association Annual Meeting and Exhibition (AERA).
- [11] Katirci, N., **Shokeen, E.**, & Williams-Pierce, C. (2022, April). *From Here to There!: Game-Based Learning*. Presented at the 2022 American Educational Research Association Annual Meeting and Exhibition (AERA).
- [10] **Shokeen, E.**, & Moon, P. F. (Nov 2021). *Unpacking players' experiences within Serious Video Games*. Presented in the 2021 Learning Sciences Graduate Student Conference.

- [9] **Shokeen, E.**, & Katirci, N. (Nov 2021). *Unpacking embodied learning within a making robotic activity*. Presented in the 2021 Learning Sciences Graduate Student Conference (LSGSC).
- [8] Wood R., Dixon E., Elsayed-Ali S., **Shokeen E.**, Lazar A., & Lazar J. (2021, October) *Investigating Best Practices for Remote Summative Usability Testing with People with Mild to Moderate Dementia*. Presented at the 23<sup>rd</sup> International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS).
- [7] Katirci, N., **Shokeen, E.**, Simpson, A., & Williams-Pierce, C. (2021, April). *Making with math: Extending a mathematical play framework to informal makerspaces*. Presented in the American Educational Research Association Annual Meeting and Exhibition (AERA). <https://aera21-aera.ipostersessions.com/default.aspx?s=9F-63-14-D6-D5-77-20-39-F1-67-E8-FD-C9-9C-B8-97>
- [6] Katirci, N., Chen, L., **Shokeen, E.**, Yasenchak, T., Tian, Y., & Williams-Pierce, C. (2020). *Bridging between mathematical play and formal mathematics*. Accepted to the 14<sup>th</sup> International Congress of Mathematics Education (ICME). Shanghai, China. (Conference Canceled due to COVID-19).
- [5] Walkoe, J., Williams-Pierce, C., **Shokeen, E.**, & Walton, M. (2020, April 17-22). *Teacher noticing professional development: Re-embodiment of the dis-embodied*. Accepted to the American Educational Research Association Annual Meeting and Exhibition (AERA). San Francisco, CA. (Conference Canceled due to COVID-19). <http://tinyurl.com/tfwfwbg>
- [4] Katirci, N., **Shokeen, E.**, & Williams-Pierce, C. (2020, April 17-21). *Exploring touch and communicative gestures' role in mathematical thinking*. Accepted to the American Educational Research Association Annual Meeting and Exhibition (AERA). San Francisco, CA. (Conference Canceled due to COVID-19). <https://aera20-aera.ipostersessions.com/default.aspx?s=47-48-1C-C5-81-AB-17-E6-79-D0-94-0E-C7-AE-65-9B>.
- [3] Williams-Pierce, C., Katirci, N., Chen, L., **Shokeen, E.**, Yasenchak, T., & Tian, Y. (2019, September). *Bridging from mathematical play to formal mathematics*. Presented at 4<sup>th</sup> International Symposium of Turkish Computer and Mathematics Education. İzmir, Cesme, Turkey.
- [2] **Shokeen E.** & Williams-Pierce, C. (2019, May). *Using Embodied Cognition to Unpack Video Game-based Discussions*. Presented at Synthesis and Design Workshop: The Future of Embodied Design for Mathematical Imagination and Cognition. Madison, WI: University of Wisconsin – Madison (EMIC).
- [1] **Shokeen E.** (2017, November). *STEM Education in India* Paper presented at the 8<sup>th</sup> Annual International Conference 2017 of the Comparative Education Society of India (CESI). University of Jammu, India.

### Edited Book

Tian, Y., Rivera, S., Wood, J., Persson, P., Richardson, Z., Steele, K., Furcinito, E., Doe, L.W., Reddick, P., Hafner, C., Delk, A., Marquardt, H., Slocum, E., Jones, F., Babcock, S., Addico, N., O'Donnell, K., **Shokeen, E.**, & Williams-Pierce, C. (Eds.) (2018). *Learning by playing: Game-based lessons for the classroom*.

Available online on a variety of platforms, including Amazon Inspire  
<https://tinyurl.com/yevhx7yn>.

### MINOR PUBLICATIONS AND MEDIA

- [3] Katirci, N., **Shokeen, E.**, Simpson, A., & Williams-Pierce, C. (2022, May). *Attending to the missing role of gestures in representational fluency*. Lightning talk and poster presented at the 2022 Human-Computer Interaction Lab Symposium. University of Maryland, College Park.

- [2] Revealing Mathematical Learning in Non-Formal Spaces (2021, September). Center for Integrative Research in Computing and Learning Sciences (CIRCLS).  
Guest Roundtable Speaker: Williams-Pierce, C., Katirci, N., Simpson, A., Shokeen, E., & Bih, J.
- [1] Resources for Hands-Off Learning at Home (May 20, 2020). Published in Sparks of Innovation: Stories from the HCI. Author with Caro Williams-Pierce and Nihal Katirci.  
<https://medium.com/hcil-at-umd/resources-for-hands-off-learning-at-home-6199e1c3fc9>

## TEACHING EXPERIENCE

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- INST 408V/ INST 608K  
**Spring 2021**      **Videogames as Emergent Experiences**  
*College of Information Studies, University of Maryland, College Park*  
**Co- instructor** with *Dr. Caro Williams-Pierce*  
A blended online class, half synchronous, and half asynchronous, with a gamified Read-Watch-Play (RWP) model, with assigned readings, videos, and games each week for advanced undergraduates, master's students, and doctoral students interested in games, UX, or digital media of any kind. My role included leading lectures on multiple topics including – *Game Design Models, Educational Games, Gaming Communities, eSports, Puzzle Solving, Problem Solving, Learning*. Additionally, taking the lead to designing activities and selecting relevant content based on the diverse student's interest in the class. Having office hours for student to assist their additional needs and queries.
- INST 362 –0102  
**Fall 2020**      **User-centered Design**  
*College of Information Studies, University of Maryland, College Park*  
**Teaching Assistant** for *Dr. Caro Williams-Pierce*  
A synchronous online class for 60 undergraduate students interested in User Experience (UX) Research. It was designed iteratively as Fall2020 was challenging times due to COVID19 which led to lots of issues such as lack of internet connection or digital literacy (e.g. Miro, portfolium) for few students. This made working in group projects different for students. With some additional support during office hours all students were satisfied with their performances and achievement in collaborative projects.
- April, 2017-  
June, 2018      **Curriculum Developer and Instructional Designer**  
Robotics Wizards, New Delhi, India  
My involvement included developing STEM based curriculum and textbooks for elementary graders; doing focused research on evaluating the effectiveness of various educational kits like Lego Education, K'nex Education etc; developing content and training manuals for teachers to assist them in classroom pedagogy; conducting teacher's training and supervision.
- April-May, 2016      **Visiting Teacher**  
Kulachi Hansraj Model School, New Delhi, India  
My involvement included designing and executing lesson plans using art and technology for teaching mathematics to grade 7 students.
- Nov.-Dec., 2015      **Content and Instructional Designer Intern**  
Pratham Education Foundation  
New Delhi, India

My involvement included developing content for teacher's training, student's magazine and analyzing the execution of a Research and Development Project in two states- Rajasthan and Uttar Pradesh of India.

#### **Teacher Intern**

Aug. 2014-Feb.  
2015

N.P. Co-Ed. Secondary School,  
Delhi, India

My involvement included creating teaching resources, teaching students of grade 4 and 6 and conducting action research including three projects titled – *How to control Growing Aggression among students; Competition versus collaboration; and an analysis of Emergent Writing Process.*

### **INVITED GUEST LECTURES**

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**INST 362** User Centered Design, Instructor *Dr. Caro Williams-Pierce* invited me to give lecture on “*Double Diamond – Design Model*”.  
(Sept 27, 2020)

**INST 775** HCIM Capstone Project, Supervisor: Bill Kules, invited me to give lecture on “*Methodological Tools for Designing a Video Game – MDA Framework and Embodied Cognition Perspective*”  
(Sept 18, 2020)

**INST 728F-0101** Special Topics in Information Studies: Games and Learning Lecture, Instructor *Dr. Caro Williams-Pierce* invited me to give multiple lectures on different models of game designs for learning such as “MDA framework: *Mechanics, Dynamics and Aesthetics* of Game Design”.  
(Spring 2020):

### **MENTORSHIP EXPERIENCE**

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**2020-21:** Volunteered to mentor the HCIM Capstone Project Team: *Reshaping how Cool School teaches kids about conflict resolution in modern day*

Cool School, an early 2000s flash-based video game developed by F.J. Lennon and Melanie Killen, teaches children conflict resolution skills. In more recent years, the game and its design system have become a bit outdated. The team conducted participatory design sessions with the Human-Computer Interaction Lab (HCIL) KidsTeam and The University of Maryland Center for Young Children (CYC) to understand what design systems and game mechanics resonated the most with children in order to modernize and evolve Cool School to serve contemporary audiences and developed key research findings and final prototype.

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**2017-18:** During my role as Curriculum Developer and Instructional Designer with an Edtech startup, Robotics Wizards, I mentored a team of 10 teachers to conduct robotic classes with kinder garden to elementary graders.

In addition to my primary responsible to develop STEM based curriculum for elementary graders, I was responsible to train teachers and supervise classes conducted by those teachers.

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