

Imtiajul Alam

imtiaj@iastate.edu

Ames, IA 50010 | <https://www.imtiajul.com/> | <https://www.linkedin.com/in/imtiajul/> | 515-520-5903

EDUCATION

Ph.D. in Human Computer Interaction (HCI)

Iowa State University, Ames, IA

Anticipated Graduation Date: July 2023

Dissertation title: An Investigation of Teacher Candidates' Perceptions and Impediments to the Integration of Augmented Reality as a Supplementary Educational Tool

M.S. (Master of Science) in Architecture

Iowa State University, Ames, IA

Graduation Date: May 2018

B.Arch. (Bachelor of Architecture)

BRAC University, Dhaka, Bangladesh

Graduation Date: Dec 2007

RESEARCH EXPERIENCE

Qualitative Researcher

Aug 2019 – Present

School of Education, Iowa State University

Ames, IA

- Conducted end-to-end qualitative research on Teacher candidates' acceptance and perception of augmented reality as a supplemental educational tool. Involved 140+ research participants, 100+ survey responses, and 25+ interview datasets. Published and presented at SITE and EdMedia + Innovate Learning conference (received AACE "Outstanding Student Paper Award").
- Undertook further exhaustive investigations to identify obstacles teachers face in adopting augmented reality into their instructional methodologies by conducting in-depth interviews with research participants.

Innovation Fellow

Aug 2021 – May 2022

Student Innovation Center, Iowa State University

Ames, IA

- Recruited, screened, and interviewed 25+ research participants to evaluate their initial interest in an augmented reality-supported textbook prototype built on the Unity platform.
- Presented an augmented reality-supported textbook prototype at the ISU Innovation Prize competition and won 1st place in the EdTech category.
- Contributed to the development of promotional audiovisual productions, intending to bolster recruitment endeavors and enhance institutional visibility.

Graduate Research Assistant

Aug 2019 – Dec 2021

School of Education, Iowa State University

Ames, IA

- Examined 176 game-related publications between 2006 and 2020 using content analysis methodologies and published and presented findings at the annual American Society of Engineering Education (ASEE) conference.

- Analyzed a two-year participatory design process to implement a gamification dashboard in a large undergraduate course management system and provided recommendations for supporting teams with diverse perspectives. Published and presented at the EdMedia + Innovate Learning conference.
- Conducted 3 longitudinal studies on game-based learning involving 190+ undergraduate students in an introductory geology course and submitted the research paper to the Journal of Computer Assisted Learning (JCAL).
- Proposed Google Glass-assisted and augmented reality-supported school classroom and won 1st place in the EdTech category at the ISU Innovation Prize competition.
- Assisted Gamification of 2 separate groups of Geology 100, Chemistry 177, Chemistry 178, Biology 101, Math 165, and Educational Technology courses at Iowa State University.
- Integrated Delphinium gamification plugins in 14 undergraduate courses for 2400+ students that enabled 4+ gamification tools in Canvas LMS.

PUBLICATIONS

Journal Articles

(Total 2)

1. **Alam, M. I.**, Malone, L., Nadolny, L., Brown, M. G., and Cervato, C. "Investigating the impact of a gamified learning analytics dashboard: student experiences and academic achievement," (in review, submitted to the Journal of Computer Assisted Learning, JCAL).
2. Elder, K. A., and **Alam, M. I.**, "Assessing the Impact of a Collaborative OER & Affordable Resources Committee," (in review, submitted to the Journal of Open Educational Resources in Higher Education, JOERHE).

Conference Proceedings

(Total 4)

1. **Alam, M. I.** & Gleason, B. (2022, June). An Augmented Reality-Based Learning Experience for Teacher Candidates. In *EdMedia+ Innovate Learning* (pp. 381-387). Association for the Advancement of Computing in Education (AACE). "**Outstanding Student Paper Award.**"
2. Nadolny, L., Malone, L., Chapman, J., & **Alam, M. I.** (2022, June). Participatory Gamification Design: Navigating Diverse Perspectives. In *EdMedia+ Innovate Learning* (pp. 534-540). Association for the Advancement of Computing in Education (AACE).
3. **Alam, M. I.** & Gleason, B. (2022, April). Teacher Candidates' opinions about Augmented Reality as a supplemental educational tool. In *Society for Information Technology & Teacher Education International Conference* (pp. 1557-1561). Association for the Advancement of Computing in Education (AACE).
4. Nadolny, L., **Alam, M. I.**, Brown, M. G., & Lamm, M. H. (2021, July). Game Research Trends at the Annual ASEE Conference: A 15-year Content Analysis. In *2021 ASEE Virtual Annual Conference Content Access*.

Conference Presentations

Oral Presentation

(Total 2)

1. **Alam, M. I.** (2022, April 06). *Teacher Candidates' perceptions of Augmented Reality as a supplemental educational tool* [Conference presentation]. 10th Annual Graduate and Professional Student Conference, Iowa State University, Ames, IA, United States.
2. Nadolny, L., **Alam, M. I.**, Aleman, E. & Zhou, C. (2021, October 01). *Game-based science learning through board games* [Conference presentation]. North Central Association for Science Teacher Education, Des Moines, IA, United States.

Poster Presentation

(Total 4)

1. Nadolny, L. & **Alam, M. I.**, (2021, March 23-25). *A study of game-related publications since 2006 and the changes of gamification over time* [Poster Presentation]. Iowa State University Research Days 2021, Ames, IA, United States, <https://tinyurl.com/29c5vk75>. "**2nd Place, People's Choice Award.**"
2. Brown, M. G. & **Alam, M. I.**, (2021, March 23-25). *Gamification of Chemical Engineering Pathways: Evidence from Introductory Courses* [Poster Presentation]. Iowa State University Research Days 2021, Ames, IA, United States.
3. Cervato, C., **Alam, M. I.**, Brown, M. G. & Nadolny, L. (2021, July 12-16). *Testing the implementation and impact of a gamification plugin for Canvas LMS in an introductory physical geology course* [Poster Presentation]. The National Association of Geoscience Teachers (NAGT) "The Earth Educators' Rendezvous" Online. <https://tinyurl.com/mry8mwcu>.
4. **Alam, M. I.** (2018, April 11). *A sustainable campus for higher education institutions in the U.S.* [Poster presentation]. 5th Graduate and Professional Student Research Conference, Iowa State University, Ames, IA, United States.

HONORS & AWARDS

Outstanding Student Paper Award

2022

Secured the prestigious Outstanding Student Paper Award at the EdMedia + Innovate Learning 2022 conference in NYC.

Innovation Fellows Gold Pin 2022

2022

Honored with the Innovation Fellows Gold Pin award by Iowa State University Student Innovation Center for dedicating 520 hours to the development of supplementary pedagogical resources for future teachers.

Cyclone Success Grant

2021 & 2020

Recipient of a \$1,000 grant from Iowa State University Athletics.

ISU Research Day 2021 Award

2021

Achieved second place in the "People's Choice" category of the iPoster awards for an exemplary poster presentation.

- Research Scholarship** **2021**
 Awarded \$1000 School of Education Research Scholarship by the School of Education, Iowa State University.
- Rosenfeld International Scholarship** **2020**
 Conferred a \$1,000 scholarship by the International Students and Scholars Office (ISSO), Iowa State University.
- The ISU Innovation Prize** **2020 & 2019**
 Secured first place in the Education Tech category at the ISU Pappajohn Center for Entrepreneurship and Agricultural Entrepreneurship Initiative for two consecutive years.
- HCI Fellowship** **2019**
 Awarded a \$25,000 fellowship by the Department of Human Computer Interaction, Iowa State University.
- Graduate College Emerging Leaders Academy (GC-ELA) recognition** **2017 - 2018**
 Recognized as a member of the Graduate College Emerging Leaders Academy (GC-ELA) at Iowa State University for the academic years 2017-2018.
- Howard and Hazel Kintzley Porter Scholarship** **2017**
 Conferred a \$500 scholarship by the International Students and Scholars Office (ISSO), Iowa State University.

TEACHING EXPERIENCES/MENTORSHIP EXPERIENCE

- Educational technology - Graduate Teaching Assistant** Jan 2021 – Present
School of Education, Iowa State University *Ames, IA*
- Assisted in creating course content for the class and facilitated discussion sessions among multiple groups of students.
 - Developed lab activities and conducted 2-hour long 8 synchronous and 4 physical lab sessions comprising approx. 60 undergraduate students for each semester.
 - Clarified learning objectives, graded 14 lab assignments and 12 online learning modules, and responded to their day-to-day inquiries via email.
- Summer REU Program - Cross-program mentor** May 2022 –Aug 2022
VRAC, Iowa State University *Ames, IA*
- Supported 9 NSF-funded undergraduate research interns with their extra-curricular activities and individual and group research projects, and motivated them to enroll in a graduate program.
 - Coordinated logistics with administrative staff, scheduled lectures with the faculties from different academic departments, and supported their participation and delivery.
- Design Culture and Diversity Courses - Graduate Teaching Assistant** Aug 2016 -Dec 2017
College of Design, Iowa State University *Ames, IA*
- Led 1-hour recitation sessions for 2 different sections comprise of 22 undergraduate students for 5 semesters.

- Facilitated the course Dialogue on Diversity, comprised of 9 graduate students.
- Clarified course contents, supported the instructor in the classroom, and graded assignments.

LEADERSHIP/TEAMWORK EXPERIENCE

Software Developer Intern (UX Research) Jun 2021 – Aug 2021
Mechdyne Corporation *Marshalltown, IA*

- Identified 6+ issues, 5 pain points, and 4 unique features through usability testing, heuristic analysis, and user feedback, and proposed design solution for a multidisciplinary collaboration software platform.
- Created the wireframes, user-flows, sitemaps, and clickable prototypes in Adobe XD for a multidisciplinary collaboration software for participation from multiple sources in real-time projected on 24 panels display in 4K.
- Identified 2 major problems of existing design by using Jakob Nielsen's principles to detect design faults and reevaluated and proposed 5 improved solutions for a robotic toy simulation product suitable for aged 8+ children.

Student Housing Director/ Building Digitization Specialist Jul 2018 - May 2019
Department of Residence, Louisiana State University *Baton Rouge, LA*

- Reorganized building layout plan for digitization by transposing hand-drawings of 10 building using AutoCAD.
- Managed 132 units of graduate student housing.
- Supervised graduate students through personal and communal crises.

Process Improvement Coordinator - Graduate Administrative Assistant Aug 2017 - Jul 2018
Department of Residence, Iowa State University *Ames, IA*

- Coached, trained, and evaluated the mailroom and front desk staff of 32 students.
- Streamlined procedures for mail, packages, and postal documents for around 4,000 students.
- Improved efficiency in handling lost packages by developing a Standard Operating Procedure (SOP).

Start-up Director & Partner Dec 2014 – Jul 2017
AI & F Partnership Sdn. Bhd. *Kuala Lumpur, Malaysia*

- Founded a 3D animation start-up, employed 9 freelancers, and collaborated with cross-functional teams of engineers, project managers, and marketing managers in Malaysia.
- Managed and delivered 4 large-scale projects worth \$145,000 through virtual supervision.

Start-up Partner & Project Manager Jan 2010 – Mar 2013
Project-BD Architects *Dhaka, Bangladesh*

- Established an architecture and interior consultancy firm and planned, budgeted, and managed the design and implementation of 6 interior design projects worth \$400,000.
- Assured optimal resource allocation and utilization for project teams and managed client contracts and relationships.

TECHNICAL SKILLS

Qualitative Research: NVivo, User interview, Survey Design, Qualtrics

Augmented and Virtual reality: Unity3D, ZapWorks

UX Research: Usability testing, Diary studies, A/B testing, Task analysis, Heuristic analysis

UX Research Design: Adobe XD

Graphics and Illustration: Adobe Photoshop, Adobe Illustrator,

Drawing and drafting: AutoCAD, Rhino 3D

Numerical and Data Analysis: SPSS

VOLUNTEER EXPERIENCE

Student Volunteer

Nov 2020

ACM Spatial User Interaction (ACM SUI) Conference

Online

- Assisted conference moderator in managing 100+ online participants and 38 presenters online using Webex.

Judge

Jan 2020

FIRST Lego League

Ames, IA

- Volunteered as a Judge in the Project category at Iowa FIRST LEGO League (FLL) held at Iowa State University and evaluated 46 projects in 2 days.
- Participated and voted in the final jury session to nominate the top 3 projects.

Volunteer

January 2014- August 2016

Rumah Solehah

Kuala Lumpur, Malaysia

- Advised and supported an organization that houses a group of women and children who are living with HIV.

PROFESSIONAL MEMBERSHIPS

Association for the Advancement of Computing in Education (AACE)

American Society of Engineering Education (ASEE)

LANGUAGES

English – Proficient in Reading, writing, and speaking

Bengali – Native proficiency