RABIA IBTASAR
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SUMMARY

Research scientist and educational technology leader with expertise at the intersection of Learning Sciences, Computer Science and Human-Computer Interaction. Experienced in interdisciplinary research and development projects to design, implement, and evaluate technology-supported learning environments in partnership with schools, educators, and researchers. Skilled in research study design, project leadership, design based and mixed-methods research approaches and translating theoretical outcomes into practical innovations for real world impact. Committed to advancing learner-centered and human-centered technologies that improve teaching and learning.

EDUCATION

UNIVERSITY OF ILLINOIS-CHICAGO **Chicago, IL**
Ph.D. Learning Science, Advisor: Dr. Joseph E. Michaelis, GPA=4.0, May 2026

- Member – Learning Sciences Student Association
- Disciplinary Concentration – Computer Science
- Computer Science coursework: Data Visualization, Tangible Interaction Design, Designing Technologies for Learning
- Educational Research Methodologies certificate in MESA (Measurement, Evaluation, Statistics & Analysis) certificate

UNIVERSITY OF PENNSYLVANIA **Philadelphia, PA**
SCHOOL OF ENGINEERING AND APPLIED SCIENCES
Master of Science in Engineering in Computers and Information Science, January 2004

- Relevant coursework**:** Theory of Computation, Algorithms, Software Systems, Computer Architecture, Wireless Systems, Network Analysis/Protocol, Artificial Intelligence, Computational Linguistics, Software Foundations, Databases
- Member - Society of Women Engineers (SWE), Alumni Community

LAHORE UNIVERSITY OF MANAGEMENT SCIENCES (LUMS) **Lahore, Pakistan**
Bachelor of Science in Computer Sciences, with Honors, June 2002

- Placed on Dean's Honor List for two consecutive quarters
- Member - Publications Club, Alumni Chapter, Art Society

RESEARCH INTERESTS

Computer Science Education, Interest Development, Belonging in CS, Broadening participation in Computer Science, Human-Computer Interaction, Human-centered AI, Collaborative learning, Museum Learning, Informal and Formal Learning Environments

TEACHING INTERESTS

Learning Sciences Theories and Methodologies, Design of Learning Environments, Qualitative Research Methods, Mixed Methods Research, Interaction Design, User Interface Design, Museum Learning, Social Robotics

EXPERIENCE

University of Illinois Chicago – Learning & Interest Technologies (LIT) Lab **Aug 2019-May 2026**
Project Lead – MyTurn Social Robotics Program

- Led the design, implementation, and evaluation of a six-year research program investigating how social robotics can support middle school students' learning and interest development in computer science.
- Designed a project-based social robotics curriculum and associated learning materials for middle school learners.
- Directed and coordinated a two-week Social Robotics Summer Camp, overseeing logistics, mentor training, instructional delivery, and participant engagement.
- Established and maintained partnerships with schools and community organizations to recruit participants and support research implementation.
- Supervised and mentored teams of undergraduate research assistants, coordinating training, data collection, and day-to-day project operations.
- Led mixed-methods data collection, analysis, and dissemination across multiple studies, resulting in peer-reviewed conference publications.
- Presented project progress and research findings to advisory boards, collaborators, and external stakeholders.

Graduate Research Assistant: UIC LIT Lab (Advisor: Joseph E. Michaelis) **Aug 2019-May 2026**

- Prepared IRB protocols, amendments, and compliance documentation for human-subjects research.
- Collaborated on the NSF-funded STEMMATE project, designing AI-enabled companion robots to support children's science learning with an interdisciplinary team at the University of Wisconsin–Madison.
- Contributed to the design and development of PATHWiSE, an AI-supported teacher authoring platform that enables educators to create personalized robot-assisted learning experiences.
- Supported interdisciplinary research spanning Learning Sciences, Computer Science, HCI, and AI in Education.
- Co-authored peer-reviewed publications and conference presentations in computing education, learning sciences, and educational technology.

National Curriculum Council of Pakistan (Remote) **Nov 2022-July 2023**

Computer Science Technical Expert and Author

- Served as technical expert to author and review grades 9-12 CS national curriculum for Pakistan
- Collaborated with curriculum specialists and subject matter experts to review, refine, and align curriculum content with national educational standards and contemporary computing concepts.

Break Through Tech Coach **April 2023-May 2023 & April 2024**

Sprinternship Coach

- Mentored undergraduate women in computer science through industry-sponsored Sprinternships, providing guidance on professional development, project planning, and navigating workplace experiences.

Museum of Science and Industry (Chicago, IL) **Jan 2017-Jun 2019**

Research and Evaluation Intern

- Prepared literature reviews for research studies to inform the design and evaluation of museum learning experiences.
- Collaborated on pilot studies contributing to study methodology, instrument development, and iterative refinement.
- Collected and analyzed visitor research data through participant recruitment, field observations, interviews, surveys, and statistical analysis using SPSS.

TEACHING EXPERIENCE

University of Illinois Chicago

Graduate Course Instructor – LRSC 540: Journal Club (Graduate Level)
Fall 2022

- Served as the sole instructor for a graduate-level Learning Sciences seminar course.
- Designed the course curriculum, selected readings, and developed the semester-long syllabus.
- Planned and led weekly lectures and facilitated discussions on foundational and emerging research in the Learning Sciences.
- Guided graduate students in critically evaluating research literature and developing scholarly discussion.

University of Illinois Chicago
Graduate Teaching Assistant / Instructor – CS 111: Introduction to Programming **Summer 2023**

- Assisted with instruction, grading, and student mentoring.

SELECTED CONFERENCE PRESENTATIONS

International Conference of the Learning Sciences (ICLS) **California- USA 2026**
Poster presenter*:* How can prompting students to view CS as a problem-solving discipline influence their perceptions of its value?

International Conference of the Learning Sciences (ICLS) **Helsinki-Finland ISLS 2025**
Short paper presentation*:* Pre-coding Scaffolds for Computational Thinking in an Open-Ended Middle School Social Robotics Curriculum

American Educational Research Association (AERA) **Chicago-USA/Hybrid 2023**
Symposia Speaker: Perceptions of the Self, Social Identities, and STEM Fields: Influences on STEM Motivation and Participation.

International Conference of the Learning Sciences (ICLS) **Montreal- Canada 2023**
Short paper presentation: Scaffolding Middle School Children's Coding Experiences in an Open-Ended Social Robotics Program. In Proceedings of the 16th International Conference of the Learning Sciences-ICLS 2023.

International Conference of the Learning Sciences (ICLS) **Hiroshima-Japan/Online ISLS 2022**
Long paper presentation: With You I'll be Able to Actually Learn Everything: Exploring Learner Experiences With a 'Study With Me' Video.

PUBLICATIONS

Refereed Journal Articles

- **Ibtasar, R.,** Lee, G., Jo, H. Y., & Michaelis, J. E. (In press). "Now That I Know What Computer Science Really is": Supporting Interest in Computer Science During a Social Robotics Summer Camp for Girls. Computer Science Education.

Refereed Conference Articles

- Lee, G., **Ibtasar, R.**, & Michaelis, J. E. (2026). How Can Prompting Students to View CS as a Problem-solving Discipline Influence Their Perceptions of its Value? In Proceedings of the 20th International Conference of the Learning Sciences-ICLS 2026. International Society of the Learning Sciences.
- Lee, G., **Ibtasar, R.**, & Michaelis, J. E. (2026, August). "I Think We Did CS Today": Students Complex Perceptions of CS in an Introductory Social Robotics Program. In Proceedings of the 2026 ACM Conference on International Computing Education Research Vol. 2 (pp. 3-4).
- Ho, H. R., Cagiltay, B., Wang, J., **Ibtasar, R.**, Mutlu, B., & Michaelis, J. E. (2026). Exploring Student Perspectives on Interacting with Social Robots for Homework.
- **Ibtasar, R.**, Lee, G., Jo, H. Y., & Michaelis, J. E. (2025). Pre-coding Scaffolds for Computational Thinking in an Open-Ended Middle School Social Robotics Curriculum. In Proceedings of the 19th

International Conference of the Learning Sciences-ICLS 2025, pp. 1899-1903. International Society of the Learning Sciences.

- **Ibtasar, R.**, Joseph, S., Athar, S., and Michaelis, J.E. Scaffolding Middle School Children's Coding Experiences in an Open-Ended Social Robotics Program. (2023). In Proceedings of the 15th International Conference of the Learning Sciences-ICLS 2023. International Society of the Learning Sciences.
- Michaelis, J.E., Cagiltay, B., **Ibtasar, R.,** Mutlu, B. (HRI 2023) Off Script: Design Opportunities Emerging from Long-Term Social Robot Interactions In-the-Wild. 2023 ACM/IEEE International Conference on Human-Robot Interaction.
- **Ibtasar, R.,** Heineke, C.M., Michaelis, J.E. (2022). "With You I'll be Able to Actually Learn Everything": Exploring Learner Experiences With a 'Study With Me' Video. In Proceedings of the 15th International Conference of the Learning Sciences-ICLS 2022. International Society of the Learning Sciences.
- Cagiltay, B., White, N., **Ibtasar, R.**, Mutlu, B. & Michaelis, J.E. (2022). Understanding Factors that Shape Children's Long-Term Engagement with an In-Home Learning Companion Robot. In ACM SIGCHI Interaction Design and Children Conference (ACM IDC 2022). Braga, Portugal.
- Segovia, G. A., Price, A., Greenslit, J., & **Ibtasar, R.** (2018). The Impact of a Lego Exhibit on Awareness of the Roles and Identities of Engineers. International Society of the Learning Sciences.

SYMPOSIA PAPERS

- **Ibtasar, R.** & Michaelis, J.E. (2023). Fostering Interest in Computing With a Social Robotics Camp for Middle School–Aged Girls. In AERA symposium, Perceptions of the Self, Social Identities, and STEM Fields: Influences on STEM Motivation and Participation.

WORKSHOP ORGANIZER

- Cagiltay, B., **Ibtasar, R.**, Michaelis, J. E., Sebo, S., & Mutlu, B. (2023, June). From Child-Centered to Family-Centered Interaction Design. In Proceedings of the 22nd Annual ACM Interaction Design and Children Conference (pp. 789-791).

SOFTWARE & PROGRAMMING

- R, LaTeX, C++, Java, HTML/CSS/JavaScript, Shiny, SPSS, Unity VR, Atlast.ti. MAXQDA
- Robotics Research Platforms: Misty Robotics Misty II, ClicBot, Arduino

VOLUNTEER

- Reviewer for conferences: ISLS 2021, ISLS 2022, ISLS 2023, AERA 2023, ISLS 2024, CHI 2024, AERA 2024, IDC 2025, ISLS 2025, ISLS 2026, CHI 2026, HRI 2026, CSCW 2026
- Teaching Assistant (2013) at the United Nations International School (New York)
- Non-profit Volunteer work at LRBT America, SOS International Village for Children (Lahore, Pakistan), UIC Disability Center