MUHAMMAD RAEES

Ph.D. Candidate, Computing and Information Sciences

Rochester Institute of Technology, Rochester, New York

585-363-8799 | mraees@mail.rit.edu | raeeschaudhary.github.io

RESEARCH INTERESTS

My research intersects Human-Computer Interaction, Human-AI Collaboration, and Socio-technical Systems. I apply cognitive science and decision-making theories to understand how people use, rely on, and exercise agency over AI and information systems.

EDUCATION

2022-Present **Ph.D. in Computing & Information Sciences** - All but dissertation
Rochester Institute of Technology (RIT), Rochester, New York
Dissertation: Understanding and Designing Human-Centered AI Interactions for Non-Expert Users
Committee: Konstantinos Papangelis, Garreth Tigwell, Ioanna Lykourentzou, David Schwartz
CGPA: 4.00/4.00

2015-2017 **Master of Science in Software Engineering**
Bahria University Islamabad Campus (BUIC), Pakistan
Courses: Usability Engineering, Research Methods, Data Mining/Warehousing
CGPA: 4.00/4.00 - Summa Cum Laude

2009-2014 **Bachelor of Science in Software Engineering**
Mirpur University of Science and Technology (MUST), Pakistan
CGPA: 3.87/4.00 - Distinction

WORK EXPERIENCE

2022-Present **Rochester Institute of Technology, Rochester, New York**
Graduate Research Assistant
Trainee, AWARE-AI NSF Research Trainee (NRT) Program
Instructor, School of Interactive Games and Media
Researcher, Sappi-RIT Digital Transformation

2019-2022 **Mirpur University of Science & Technology, Pakistan**
Lecturer, Software Engineering
Advisor, Software Engineering Undergraduate Program

2014-2019 **Mirpur University of Science & Technology, Pakistan**
Software Engineer and Demonstrator, Software Engineering
Developer, Campus Management Systems

SELECTED PUBLICATIONS - see all

Peer-Reviewed Papers[1]

C.26a **Muhammad Raees** et al. (2026). Do People Appropriately Rely on AI Advice? An Analytical Review of HCI Research on Human-AI Decision-Making. In *ACM CHI Conference on Human Factors in Computing Systems*, Barcelona, Spain. Honorable Mention Award. DOI: 10.1145/3772318.3791467.

C.26b Yugo Iwamoto, **Muhammad Raees**, et al. (2026). Bridging Communication Gaps: Real-Time Kiosk Multimodal Conversations Between d/Deaf and Hard-of-Hearing and Hearing Users. In *International Conference on Human-Computer Interaction*, Montreal, Canada. DOI: 10.1007/978-3-032-29656-6_13

C.25 **Muhammad Raees** et al. (2025). Exploring Persuasive Engagement to Reduce Over-Reliance on AI-Assistance in a Customer Classification Case. In *33rd ACM Conference on User Modeling, Adaptation and Personalization*, New York City, NY. DOI: 10.1145/3699682.3728320

[1]Peer-reviewed conferences are top-tier publication venues in computing. They are highly selective and competitive. C=Conference, J=Journal

SELECTED PUBLICATIONS - see all (continued)

J.24 **Muhammad Raees** et al. (2024). From explainable to interactive AI: A literature review on current trends in human-AI interaction. *International Journal of Human-Computer Studies*, Vol. 189. Most cited on IJHCS. DOI: 10.1016/j.ijhcs.2024.103301

Under Review Manuscripts

R.1 **Muhammad Raees** et al. How University Disability Services Professionals Write Image Descriptions for HCI Figures Using Generative AI. Under review at *ACM TACCESS*. DOI: 10.48550/arXiv.2602.08937

R.2 **Muhammad Raees** et al. Toward Appropriate Reliance on Generative AI: Evaluating Research in Human-GenAI Decision Support. Under review at *ACM TOCHI*.

R.3 **Muhammad Raees** et al. Beyond Single Quality Scores: Understanding How People Judge 3D Gaussian Splatting Assets. Under review at *ACM TOCHI*.

Peer-Reviewed Late-Breaking Work and Posters

C.26a **Muhammad Raees** et al. (2026). "We Still Use Spreadsheets." Understanding Business Decision-Makers' Perceptions and Barriers to AI Analytics. In *ACM CHI Conference on Human Factors in Computing Systems - Extended Abstracts*, Barcelona, Spain. DOI: 10.1145/3772363.3798820

C.26b **Muhammad Raees** et al. (2026). Trust to Reliance: Measurement Constructs for Human-AI Appropriate Reliance. In *ACM CHI Conference on Human Factors in Computing Systems - Extended Abstracts*, Barcelona, Spain. DOI: 10.1145/3772363.3798835

C.26c **Muhammad Raees** et al. (2026). Understanding Interactive Model Engagement for Appropriate Reliance: An Exploration of AI-Assisted Decision Support in Customer Classification. In *ACM CHI Conference on Human Factors in Computing Systems - Extended Abstracts*, Barcelona, Spain. DOI: 10.1145/3772363.3798834

C.25a **Muhammad Raees** et al. (2025). Exploring Generative AI to Support Disability Service Professionals in Writing Image Descriptions for HCI Science Figures. In *27th International ACM SIGACCESS Conference on Computers and Accessibility*, Denver, CO. DOI: 10.1145/3663547.3759763

C.25b **Muhammad Raees** et al. (2025). UX Challenges in Implementing an Interactive B2B Customer Segmentation Tool. In *ACM CHI Conference on Human Factors in Computing Systems - Extended Abstracts*, Yokohama, Japan. DOI: 10.1145/3706599.3706687

C.23 **Muhammad Raees** et al. (2023). Four challenges for IML designers: Lessons of an interactive customer segmentation prototype in a global manufacturing company. In *ACM CHI Conference on Human Factors in Computing Systems - Extended Abstracts*, Hamburg, Germany. DOI: 10.1145/3544549.3585788

GRANTS AND AWARDS

2026	Publication Support Grant, RIT Student Government - **$800**
	Conference Travel Award, RIT - **$3,500**
2025	Conference Travel Award, ACM and RIT - **$2,500**
	Conference Travel Award, NSF-NRT-RIT - **$1,500**
	Conference Grant, RIT - **$500**
2024-2027	NSF AWARE-AI Trainee Fellowship, NSF-NRT-RIT - **$1,500+**
2022-2027	Graduate Research Scholarship, Sappi Europe - Led by Konstantinos Papangelis - **$150,000**
2022	Scholarship Awards for PhD, HEC, Pakistan - *Declined* - **$80,000**
2017	Master Scholarship Award, Bahria University, Pakistan - **$1,200**

HONORS AND RECOGNITION

2026	Best Paper Honorable Mention, CHI 2026
	Recognition for Outstanding Reviews x 2, CHI 2026
2025-2026	Trainee Council Leader, NSF-NRT-RIT
2017	Summa Cum Laude - Gold Medal - Bahria University, Pakistan.

TALKS AND PRESENTATIONS

Spring-2026	Understanding User Reliance in Human-AI Interactions Invited Talk: University of Bayreuth, Bayreuth, Germany
	Do People Appropriately Rely on AI Advice? Conference Presentation: CHI, Barcelona, Spain
Fall-2025	Understanding and Designing Human-Centered AI Interactions for Non-Expert Users Invited Thesis Talk: RIT
Summer-2025	Examining Over-reliance in Business Decision-Making With AI Conference Presentation: UMAP, New York City, USA
Spring-2025	UX Challenges in B2B Interactive Customer Analytics Conference Presentation: CHI, Yokohama, Japan

SKILLS

General	Python (Data Analysis, Machine Learning), R, SQL, JavaScript, C/C++, App/Web/ML Prototyping
Research	User-Centered Interaction Design, Quantitative and Qualitative Methods, Surveys, Interviews, Ethnography, Thematic Analysis, Experimental Design, Usability and A/B Testing
Domains	User Experience (UX) Research, AI-Assisted Decision Support, Visualization, Predictive Analytics
Analytics	Big Data Systems, Tableau, Power BI, Plotly Dash, HighCharts, GIS Visualization
Misc.	Design (Figma, Canva, Miro), Studies (Qualtrics, Prolific), Task Automation, Teamwork and Leadership, Collaboration, Mentorship

PROJECTS/PORTFOLIO

2023-2026	Interactive ML for Business Professionals Implemented analytics tools for business users to **apply, compare, and interrogate** model outputs on their own datasets, supporting real-world decision-making workflows. Led qualitative evaluations (30+) with semi-structured interviews, analyzing key human factors—**trust, understanding, and perceived control**. (Published: CHI '23, '25, '26).
2024-Present	AI-Assisted Decision Support Conducted mixed-methods studies, combining **behavioral** and **subjective** measures to understand users' appropriate reliance on AI advice, building their analytical engagement. Findings inform key **design decisions** for evaluating users' reliance on AI. (Published: UMAP '25, CHI '26).
2024-2026	AI-Assisted Writing for Non-Experts' Work Support Conducted mixed-methods studies with DSO professionals to evaluate their **reliance on AI-assisted outputs** in writing alt text for complex science figures. Follow-up evaluations using interviews and a **value-centric lens** of produced outputs. (Published: ASSETS '25). *Under Review: TACCESS '26.*
2026-Present	Conversational Visualization Authoring Developed an interactive tool for **conversational interactions** with data and visualization, evaluating the value of **AI-assisted collaborative outputs** using AI. User studies are planned for detailed analysis.

STUDENT MENTORSHIP (Recent Only)

2026-Present	Jiayu Yu - M.S. Computer Science Student at RIT
2025-2026	Jack Kirk - B.S. Game Design Student at RIT
2024-Present	Yugo Iwamoto - M.S. Human-Computer Interaction - RIT. Now pursuing a PhD at GMU

SERVICE AND VOLUNTEERING

2025	Student Volunteer - ACM Conference UMAP - New York City
2025-Present	Vice President - RIT Doctoral Student Association
2024-Present	Technical Mentor/Judge - CodeToPhD, GENIUS Olympiad, RIT DataFest
	Project and Client Manager - Statistics Without Borders
2024-2025	Club Initiator and Treasurer - RIT Pakistani Student Association
2023-2025	Data Science Volunteer - Hildreth Institute, Data Kind

REVIEWS/PROGRAM COMMITTEES

2026	ACM Conference on Human Factors in Computing Systems (CHI) Associate Chair - Posters Track (13 Assignments)
2024-Present	ACM Conference on Human Factors in Computing Systems (CHI) 2027 (6 Reviews), 2026 (7 Reviews), 2025 (4 Reviews)
	International Journal of Human-Computer Studies (IJHCS) 2026 (2 Reviews), 2025 (3 Reviews), 2024 (2 Reviews)
2025-2026	ACM Conference on Intelligent User Interfaces (IUI) 2026 (3 Reviews), 2025 (3 Reviews)
2025	ACM Symposium on Engineering Interactive Computing Systems (EICS) 2025 (1 Review)
	ACM Conference on Designing Interactive Systems (DIS) 2025 (1 Review)

TEACHING

Spring-2027	220. Game Design & Development I
Fall-2026	601. Game Development Processes
	320. Game Design & Development II
Spring-2022	365. Web Design and Development
	245. Operating Systems
Fall-2021	406. Machine Learning
	102. Programming Fundamentals
Spring-2021	405. Data Encryption and Information Security
	365. Web Design and Development
Fall-2020	406. Machine Learning
	356. Human-Computer Interaction
Spring-2020	405. Data Encryption and Information Security
	365. Web Design and Development
Fall-2019	356. Human-Computer Interaction
	101. Information and Communication Technologies

MISCELLANEOUS

2026	**Nanodegree**. AWS AI & ML Scholars Future AWS AI Programmer
2026-Present	Invited to write a book for the Synthesis Lectures series (Under consideration)
2021-Present	Author of a course book “Web Design” for an open university and writer at Medium
2020-Present	**Certification**. UX Design, Responsible Conduct of Research, Data Science, Data Analytics

REFERENCES

1 **Dr. Konstantinos Papangelis**
Associate Professor, Rochester Institute of Technology.
Rochester, NY. USA.
Email: kxpigm@rit.edu

2 **Dr. Garreth W. Tigwell**
Associate Professor, Rochester Institute of Technology.
Rochester, NY. USA.
Email: gwtics@rit.edu

3 **Dr. Ioanna Lykourentzou**
Associate Professor, Utrecht University.
Utrecht, Netherlands.
Email: i.lykourentzou@uu.nl

4 **Dr. Vassilis-Javed Khan**
Senior UX Researcher, European Commission.
Brussels, Belgium.
Email: vjkhan@vjkhan.com