

Sinha Afroz

📍 Marietta, Georgia, USA ✉ sinhaafroz16@gmail.com 🌐 sinhaafroz.github.io
🔗 [Google Scholar](#) 🌐 [LinkedIn](#)

Research Interests

- Extended Reality (XR) and Virtual Reality (VR)
- Medical Imaging and 3D Visualization
- Computer Vision and Deep Learning

Education

PhD in Computer Science Fall 2025–Present
Kennesaw State University (KSU), Kennesaw, Georgia, USA
Grade Point Average (GPA): 4.00/4.00
Advisor: Dr. Lei Zhang

BSc. in Computer Science and Engineering 2017–2022
United International University (UIU), Dhaka, Bangladesh
Cumulative Grade Point Average (CGPA): 3.89/4.00 (Magna Cum Laude)

Research Experience

Mental Health VR – NSF-Funded Project 2025–Present
Kennesaw State University, Advisor: Dr. Lei Zhang

- Designing a personalized VR grief-support system that generates immersive 360° environments in real-time based on the user’s reported emotional state.
- Implementing ML-driven adaptation of skyboxes and XR interactions using Unity and Meta Quest to promote emotional relief and engagement.
- Conducting iterative user evaluations to measure effectiveness of the system for grief support and emotional well-being.

Professional Employment

Junior Software Engineer Jan 2023 – Dec 2023
Dhaka Popular Travel Ltd., Software Development Team, Dhaka, Bangladesh

- Built B2B airline ticketing platform serving international clients using Laravel, Vue.js, Tailwind CSS, and MySQL; maintained 99%+ uptime through Docker-based deployment on Linux.
- Automated data extraction pipelines with Python, producing and publishing a curated Airports & Airlines dataset ([Kaggle](#)) adopted by the community.
- Streamlined development workflows with Git/GitHub, reducing merge conflicts and improving team release cadence.

Publications

Conference Publications

- **Sinha Afroz**, Devon Haynes, Reece Freeman, Mason Prather, Feiyu Lu, Brooke Zhao, Joy Li, Sungchul Jung, Lei Zhang
Beyond Slices: A Narrative-Driven, Multi-User, Multi-Modal Virtual Reality System for Medical Imaging Presentation
2026 IEEE Conference on Virtual Reality and 3D User Interfaces (VRW), 3DUI Contest Demo.
Status: Published **DOI:** [10.1109/VRW62533.2025.11489916](https://doi.org/10.1109/VRW62533.2025.11489916) **PDF:** [NSF PAR](#)
- Md. Ashif Mahmud Joy, Md. Fuad Hasan Khan Chowdhury, **Sinha Afroz**, et al.
Real-Time Face Recognition with Mask using Deep Convolutional Neural Network
Proceedings of the 4th International Conference on Computing, Networks, and Internet of Things (CNIOT'23), Xiamen, China, May 26–28, 2023, pp. 457–461.
DOI: [10.1145/3603781.3603863](https://doi.org/10.1145/3603781.3603863) **PDF:** [ACM](#)

Journal Articles

- **Sinha Afroz**, Lei Zhang
Immersive Extended Reality (XR) in Oncology: A Scoping Review of Virtual Reality (VR) and Mixed Reality (MR) Applications for 3D Solid Tumor Visualization
Frontiers in Virtual Reality, 2026.
Status: Accepted **DOI:** [10.3389/frvir.2026.1780348](https://doi.org/10.3389/frvir.2026.1780348)

Presentations & Demos

3DUI Contest Demo – *Beyond Slices: A Narrative-Driven, Multi-User, Multi-Modal VR System for Medical Imaging Presentation* IEEE VR 2026

Skills

Programming Languages: Python, Java, C, C#

XR/VR Development: Unity, XR Interaction Toolkit, Netcode for GameObjects, Meta Quest (2/3), OpenXR

Medical Imaging & 3D: 3D Slicer

ML/AI Libraries: TensorFlow, PyTorch, Scikit-learn, NumPy, Pandas

Web & Databases: HTML, CSS, JavaScript, Vue.js, Laravel, MySQL

Tools & DevOps: VS Code, Jupyter, Docker, Anaconda, Git/GitHub

Others: L^AT_EX, Microsoft Office

Selected Projects

Beyond Slices: Multi-User VR System for Medical Imaging Published, IEEE VR 2026

- Collaborative VR system for surgeon–family communication in pediatric oncology; built with Unity, XR Interaction Toolkit, Netcode for GameObjects, deployed on Meta Quest 3.

Real-Time Face Recognition With and Without Mask Published, CNIOT'23

- Deep CNN-based face recognition system operating under masked and unmasked conditions; accompanied by a compact hardware demonstration prototype.

Dhaka RentVision: Smart Rental Price Prediction

- Trained and tuned ML regression models with GridSearchCV; deployed predictions via a Flask web interface.

DNA-Binding Protein Identification

- Binary classification of DNA-binding proteins using DNN (MLP) and SVM; evaluated against standard bioinformatics benchmarks.

Water Cleaning Boat

1st Prize, UIU CSE Project Show 2019

- Autonomous surface waste collection boat controlled via Raspberry Pi and Arduino Uno.

Other projects: [Online Tailor Shop](#) (Laravel/Vue.js), [Bus Ticket Reservation](#) (Java), [Save The Butterfly](#) (OpenGL game), Popular Travel B2B Italy Website (Laravel/Vue.js/MySQL).

Honors & Awards

Dean's 4.0 Club

Fall 2025

Kennesaw State University – recognition for perfect GPA in first semester of PhD program.

Magna Cum Laude

2024

United International University – awarded at convocation for consistent academic excellence (CGPA 3.89/4.00).

Merit Scholarship

2017–2022

United International University – full scholarship maintained across all academic years based on performance.

1st Prize – Water Cleaning Bot

2019

UIU CSE Project Show – awarded for developing an autonomous surface waste management system for water bodies.

Professional Activities & Service

Association for Computing Machinery (ACM) – Complimentary Professional Member

2023–2024

Former Member, UIU Robotics Club

2018–2019

Former Member, UIU Computer Club

2017–2018

Participant, Bangladesh Math Olympiad

2012