

Aaqel Shaik

mshai4@uic.edu | aaqel.xyz | linkedin.com/in/aaqel-shaik

EDUCATION

University of Illinois Chicago (UIC)

Master of Science in Computer Science

Aug 2025 – May 2027

Bachelor of Science in Computer Science

Aug 2021 – May 2025

- **Research Interests:** Digital Twins, Spatial Computing, Visualization

RESEARCH EXPERIENCE

Modular Agentic System for Scientific Visualization in Mixed Reality

Research Aide, Argonne National Laboratory (with Dr. Michael Papka and Dr. Joseph Insley) May 2025 – Aug 2025

- Designed a modular agentic architecture for XR scientific visualization with natural language task execution.
- Implemented plug-and-play domain modules with contextual reasoning and asynchronous workflow orchestration.

Visualizing Protein-Protein Interactions For Drug-Discovery Using LLMs

Undergraduate Researcher, Electronic Visualization Lab, UIC (with Dr. Michael Papka) Sep 2024 – May 2025

Research Aide, Argonne National Laboratory (with Dr. Michael Papka and Dr. Silvio Rizzi) May 2024 – Aug 2024

- Developed an AI virtual assistant for scientists engaged in protein-protein interaction (PPI) research.
- Implemented predictive analysis to accelerate hypothesis-generation on potential protein behavior.

Optimizing SAGE Crosswalk Pedestrian Detection for ARM64

Undergraduate Researcher, Electronic Visualization Lab, UIC (with Dr. Michael Papka) Sep 2023 – Apr 2024

Research Aide, Argonne National Laboratory (with Dr. Michael Papka) May 2023 – Aug 2023

- Developed ML and web components to demonstrate the real-time processing of edge data from SAGE nodes distributed around the Chicagoland area.
- Build and test prototype SAGE Education Nodes to be used in classrooms for hands-on learning.

Developing a USB Debugger Interface for ECU Communication

Undergraduate Research, Dept of ECE, UIC (with Dr. Jon Komperda) Jan 2024 – Apr 2024

- Worked with a team of ECE students to develop an industry-approved system for a corporate sponsor.
- Researched and tested various userspace libraries for establishing USB gadgets in the Linux kernel.

PRESENTATIONS

- **A. Shaik**, F. Massa, B. Ta, M. Han, J. Insley, J. Knowles, V. Mateevitsi, M.E. Papka, S. Rizzi, Shilpika, "Modular Agentic System for Scientific Visualization in Mixed Reality," 21st IEEE International Conference on e-Science, Chicago, IL, 16 September 2025.
- **A. Shaik**, M.E. Papka, Shilpika, V. Vishwanath, "Visualization of Protein-Protein Interactions For Drug-Discovery Using LLMs," UIC LAS Faculty Research Symposium - AI Impact, Chicago, IL, 24 October 2024.
- **F. Massa**, **A. Ali**, **A. Shaik**, M.E. Papka, S. Rizzi, "GENIUS: AI Powered Assistant For Scientific Research," Sandia 6th Annual XR Conference, Albuquerque, NM, 23 July 2024.

TECHNICAL SKILLS

Languages: Python, C/C++, F#, Swift, Java

Developer Tools: Git, Linux CLI

Libraries: NumPy, Matplotlib, RealityKit

EXTRACURRICULAR ACTIVITIES

Association for Computing Machinery at UIC (ACM@UIC)

Aug 2021 – Dec 2022

- Led various workshops on common meta-programming and debugging tools.
- Performed various secretarial duties like drafting outreach emails and corresponding with third parties regarding events.
- Planned and executed club merchandise production from the design to manufacture.