

# Ashna Ali

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## EDUCATION

University of Missouri-Kansas City  
Master of Science in Computer Science

**Expected December 2024**

University of Missouri-Kansas City  
Bachelor of Science in Computer Science

**May 2023**  
University Honors, GPA 3.25

## SKILLS

**Tools** – AWS, MongoDB, Github, Microsoft Teams/Office, Visual Studio Code, Tensorflow, Pytorch, mySQL, Docker, Flask, NodeJS, NextJS, Express, Redux

**Languages** – Java, Python, C++, C#, ReactJS, SQL, Javascript

**Soft Skills** – Problem Solving, Project Management, Troubleshooting, Agile Development, Adaptability

## PROJECTS

### Applied Cryptography (Summer 2024)

- **Project Summary:** Developed a web application with a group of students that demonstrates a hybrid solution of combining Advanced Encryption Standard (AES), Elliptical Curve Cryptography (ECC), and post-quantum cryptography for healthcare data storage.
- **Key Contributions:**
  - Conducted literature review on research done in the healthcare industry using AES, ECC, and Post-Quantum Cryptography for data storage and data transfer.
  - Identified critical challenges in implementing a hybrid solution of AES, ECC, and post-quantum cryptography, allowing valuable insights for future research
  - Led and managed a team in developing a web application that demonstrates a hybrid solution of combining AES, ECC, and post-quantum cryptography for data storage of healthcare data
  - Designed front-end application, making sure it is user-friendly and efficient
- **Skills and Tools:** Docker, Flask, PostgreSQL

### Cloud Computing (Spring 2024)

- **Project Summary:** Developed a web application that takes any ReactJS application from Github, builds it, and then deploys it to the cloud. Project earned first place in a class-based competition based on the submission and recognition from the professor. Project was used as an example for future classes.
- **Key Contributions:**
  - Created a simple yet efficient user interface that has a textbox that takes a link to a Github repository and then sends information to the cloud to start the build process
  - Integrated AWS services (Elastic Container Registry, S3 Storage) for seamless deployment
- **Skills and Tools:** ReactJS, NextJS, AWS Elastic Container Registry, AWS S3 Storage, Express

### Deep Learning (Spring 2024)

- **Project Summary:** Developed custom CNN models for image classification, working with datasets like CIFAR-10 and Tiny ImageNet.
- **Key Contributions:**
  - Applied knowledge learned in class about optimization, hyper parameter tuning, and transfer learning to improve on accuracy and efficiency.

- Also explored advanced techniques like segmentation and style transfer
- **Skills and Tools:** Python, Tensorflow, Pytorch, Visual Studio Code

## Software Engineering Capstone (Spring 2023)

- **Project Summary:** Developed a web application to display various job postings for graduate classes to apply as a Graduate Teaching Assistant for the University of Missouri-Kansas City.
- **Key Contributions:**
  - Coordinated a team of four to engineer a Graduate Teaching Assistant application submission portal for the institution.
  - Created two different views of the front-end application (a student and administrative view)
  - Incorporated a user account and login page for the front-end application using Redux for application state management
  - Developed the API configuration for sending and receiving data from the database
  - Planned the database entry structure
- **Skills and Tools:** MongoDB, Express, NodeJS, ReactJS, Redux

## Java Programming

- **Project Summary:** Developed a desktop application for billing management at an energy company
- **Key Contributions:**
  - Integrated front-end and back-end with Microsoft SQL, for optimized data handling
- **Skills and Tools:** Java Swing, Microsoft SQL

## EXPERIENCE

### Missouri Institute of Defense and Energy - UMKC

*Graduate Student Research Assistant*

Kansas City, MO  
May-August 2023

- Conducted research on machine learning models (mainly image classification and segmentation) using Tensorflow and Pytorch while assisting fellow graduate/Ph.D students with their projects.

### Oracle Cerner Corporation (Oracle Health)

*Technical Apprentice*

Kansas City, MO  
May 2019-Nov 2021

- Learned and applied web development skills and worked on small projects for the Integrated Charting team. Main solution was a web application that tracked patient's symptoms and diagnoses.

### Cerner Scholar

- Through Northland CAPS, worked with the Clinical Center Development team and learned test automation using Eggplant

Kansas City, MO  
Apr-May 2019