# Ejaz Ahamed Shaik

eshaik@ncsu.edu | ez7051.github.io | linkedin.com/in/ejaz-ahamed-shaik-617a10144/ | +1 919 559 8165

## Education

**North Carolina State University**, Raleigh, NC                             August 2023 - Dec 2024
Master of Computer Science                                                                   *GPA: 4.0/4.0*
Courses: Design and Analysis of Algorithms, Automated Learning and Data Analysis, Software Engineering, Computer and Network Security, Neural Networks, Independent Study on Optimizing Code Generation for Large Language Models.
Future courses: AI/ML, Advanced AI, Generative AI for SE, Human-Computer Interaction, Computer Graphics

**National Institute of Technology**, Allahabad, India                          July 2016 - May 2020
Bachelors of Technology in ECE                                                                *GPA: 8.7/10*
Courses: Computer Programming, Data Structures and Operating Systems, Networks and Systems, Computer Architecture, Software Project Management, Machine Learning, Advanced Digital and Image Processing, Database Management.

## Skills

**Programming Languages:** Java, C/C++, Python, SQL, HTML, CSS, PHP, JavaScript, Bash.
**Databases and Operating Systems:** PostgreSQL, MySQL, MongoDB, Linux, macOS, Windows, Ubuntu, CentOS.
**Tools/Frameworks:** Spring boot, RabbitMQ, Apache Kafka, Splunk, Git, Linux, Docker, CI/CD, Blockchain, Tensorflow, CNN, NLP, Rest API, Jenkins, Maven/Gradle, Uipath, Automation Anywhere, Tableau, Streamlit, NPM, NodeJS, ReactJS, GPT-3 API, Kubernetes, Redis

## Professional Experience (3 years)

**Senior Software Engineer, *Ultimate Kronos Group, India***                    June 2022 - July 2023

- Upgraded messaging framework to enhance RabbitMQ resilience by **30%** through a shift to quorum queue model.
- Achieved a **25%** reduction in operational costs by optimizing messaging framework, eliminating MuleSoft dependency and engineered a **40%** efficiency boost in Microsoft SQl Server data processing.
- Enhanced security post UKG Ransomware attack, Implemented robust password policies and advanced security features in the legacy ecosystem.

**Software Engineer, *Ultimate Kronos Group, India***                         August 2020 - June 2022

- Implemented versatile messaging framework, decoupling systems from RabbitMQ Enabling parameterization.
- Key member of 3 person team automating daily monitoring of RabbitMQ, Redis, Ppas microservices, saving about 7.5K person-days/year through RPA implementation across Dimension.

## Projects

***SEEDGuard.AI***                                      *Python, Tensorflow, Pytorch, Generative AI, LLM*

- Lead developer in SEEDGuard.AI project, driving enhancements in trustworthy AI for software engineering with a specific emphasis on data qualities related to code generation in large language models (LLM).
- Engaging with Dr. Bowen Xu and a global community to address critical data quality issues, actively contributing to open-source developments, and influencing the trajectory of AI in SE, particularly in the domain of LLM-driven code generation.

***Retrieval Augmented Generation (RAG)***                    *Python, Tensorflow, Redis, PostgresSQL*

- An end to end approach involving an information retrieval component utilizing PostgreSQL for data storage and Redis for caching to enhance retrieval processes.
- The user query along with retrieved information are give to (Large Language Model) LLM to generate better response, this strategy addresses both LLM hallucinations and out of data training data of current generative models.

***Crypto Transfer***                              *Python, Cryptography, Socket Programming, Scripting*

- Successfully implemented a secure file transfer system, incorporating cryptographic techniques such as AES encryption in Galois Counter Mode (AES-GCM), Diffie-Hellman key exchange, and protection against on-path attacks.

***A New Mask R-CNN Based Method for Improved Landslide Detection***    *Python, Tensorflow, CNN, Object detection*

- Developed an innovative approach for landslide detection harnessing the power of Mask R-CNN's pixel-based segmentation with transfer learning to identify object layouts (https://ieeexplore.ieee.org/document/9373966)

***Telecom Customer Churn Prediction***              *Python, Tensorflow, Machine Learning, Git, Github*

- Preprocessed a 7,000-record dataset through standardization and one-hot encoding, trained models with diverse machine learning algorithms, achieving 81.5% accuracy via a hard voting classifier with top-performing algorithms and systematic evaluation of accuracy and AUC-ROC values.