

# Harris Khan

(336) 259-1963 | [harris.a.khan2003@gmail.com](mailto:harris.a.khan2003@gmail.com) | [linkedin.com/in/harrisakhan](https://www.linkedin.com/in/harrisakhan)

## EDUCATION

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### North Carolina State University

Raleigh, NC

Bachelor of Science & Master's in Computer Science - Full Ride Scholarship

May 2025 – GPA: 4.0

**Courses:** Data Structures & Algorithms, Operating Systems, Database Management, Internet Protocols, Artificial Intelligence, Linear Algebra, Internet of Things Devices, Statistics & Probability, Metaheuristics & Search Optimization

**Scholarships & Awards:** Goodnight Scholarship Recipient, Accelerated Bachelors Masters Program, Dean's List

## EXPERIENCE

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### NASA RAISE Lab

Raleigh, NC

Graduate Software Engineering Researcher

Aug 2024 – Present

- Incoming Researcher at NASA RAISE Lab focused on machine learning models for enhanced software review

### National Science Foundation - CLASS 2.0

Raleigh, NC

Full Stack Software Engineer

Jan 2023 – May 2024

- Developed a Confidence-Based Learning Accuracy Support System to track and analyze quiz-taker confidence levels
- Ported core functionalities to achieve feature-parity with CLASS 1.0, utilizing modern web technologies such as **React**, **React Query**, **Swagger**, and **Storybook** for an enhanced user and developer experience
- Addressed legacy code and **mitigated technical debt** by collaboratively devising a strategic **refactoring** plan focused on modularity, readability, and maintainability, reducing future development time and potential bugs
- Designed **backend infrastructure**, including **API's**, authentication flow, Postgres SQL **database views**, and implemented new data models using Sequelize ORM for robust data handling and database interactions

### Google-funded NLP Research

Raleigh-Durham Area

NLP Researcher

Jan 2023 – Jan 2024

- Developed, **fine-tuned**, and **deployed NLP models** addressing tasks such as sentiment analysis, text classification, and named entity recognition, resulting in a **14%** improvement in overall accuracy and robust handling of datasets
- Processed, analyzed, and extracted actionable insights from **large-scale text datasets**, including course evaluations and student feedback, significantly improving course design and delivery
- Extended **GPT-based models** to create a feedback system for professors, resulting in **10%** more effective feedback

### IFB Solutions

Winston-Salem, NC

Accounts Payable Analyst and Software Automation

May 2022 – Jan 2023

- Created **python automation solutions** for the Pinnacle division, enhancing market research efficiency on Amazon
- Designed a tool to **parse** vendor pricing files, keeping D365 Finance and Operations up-to-date with current pricing
- Resolved a **\$25 million** discrepancy with invoices and purchase orders, using **MediusFlow** and **Microsoft D365**
- Investigated and identified issues within warehouse processes, ensuring accurate goods receipt for financial accuracy
- Optimized the company's **ERP system** for improved **3-way matching** between invoices, purchase orders, and goods receipts, ensuring financial integrity

## PROJECTS

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### Resume Tailoring Web Application | *Svelte, TypeScript, OpenAI API, Ollama, RAG, Vercel, Docker*

- Developed an application for the career services team at my university to aid **800+** students in tailoring resumes to job descriptions, tracking past resumes, and preparing for interviews with a chat interface powered by **Generative AI**

### Visualizing Art using the Dung Beetle Optimizer | *Julia, Jupyter Notebooks, Google Colab, DataFrames, Plots*

- Developed an original implementation of the Dung Beetle Optimizer metaheuristic in **Julia**, a first-of-its-kind adaptation, to solve the Traveling Salesman Problem (TSP). Leveraged this approach to generate stipple patterns for artistic visualization, utilizing **Jupyter Notebooks** and a suite of **Julia** libraries

### Restaurant Management Application | *Java, Spring Boot, Angular, MySQL, Hibernate, RESTful API*

- Developed a full-stack application for restaurants to manage inventory, staff, order history, revenue tracking, and provide customers a platform to place orders using **Java**, **Spring Boot**, **Angular**, and **MySQL**

## TECHNICAL SKILLS

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**Languages:** Java, Python, C, C++, SQL, JavaScript/TypeScript, HTML/CSS, Swift, SwiftUI, Julia, Rust

**Frameworks:** Svelte, Angular, React, Spring Boot, React Native, Apache Kafka, JUnit, REST API

**Developer Tools:** Git, Maven, Docker, Unix/Linux, Jenkins, MySQL, Firebase, AWS, GCP, Redis, Node, Postman