

Sarah Athar

Chicago, IL • (312) 731-1670 • sarahstrikes.com • sarahathar2001@yahoo.com • linkedin.com/in/sarah-athar • github.com/sarahathar

EDUCATION

University of Illinois at Chicago (UIC)

Bachelor of Science in Computer Science, Software Engineering | Minor in Economics

GPA: 4.0/4.0; Dean's List for All Semesters

Chicago, IL

Expected May 2023

SKILLS & INTERESTS

- **Languages:** C++, C, Java, Python, React-Native, React, CSS, HTML, JavaScript,
- **Developer Tools:** GitHub, GTEST, Android Studio, VS Code, Visual Studio, CLion, Eclipse, Jupyter, Google Collab
- **Interests:** Member of the Women in Computer Science (WiCS), Member of Society of Women Engineers (SWE)

WORK EXPERIENCE

University of Illinois at Chicago

Teaching Assistant for Data Structures Course

Chicago, IL

January 2021 – Present

- Guided Labs, Oral Exam Sessions, Project Help Sessions, and answer queries on Piazza for a class of over 200 students.
- Facilitated weekly Office Hours to assist students in debugging code and explaining Key Concepts such as Data Structures, Abstractions, Hashing, Graphs, AVL Trees, Search/Sort Algorithms, Memory Mapping, and Unit Testing.

University of Illinois at Chicago

Undergraduate Research Scholar

Chicago, IL

June 2021 – August 2021

- Assisted Dr. Peihan Miao with research interests in Cryptography and Security, including Secure Multiparty Computation and Applied Cryptography. The Research Project captured Data Privacy when training Machine Learning Models, with a focus of Privacy-Preserving Linear Regression.
- Executed the online phase of an existing secure linear regression protocol, allowing different parties to jointly train a model on combined data inputs, while keeping respective data private or hidden from other parties and revealing only the resulting predictive model.

KPMG

Advisory Sprintern in Data, Analytics & AI

Chicago, IL

May 2021 – June 2021

- Worked with a team to develop a solution to use different technological strategies to obfuscate client sensitive documents for training and broader uses within the firm.
- Incorporated Natural Language Processing Tools (NLP) from both IBM Watson and SpaCy, to arrive to a conclusion on which tool was faster and had greater accuracy during Document Obfuscation.

Chicago Breakthrough Tech

Teaching Assistant for Winter Guild Program

Chicago, IL

January 2021

- Delivered a 5-day program designed to inspire and teach women about design thinking and innovation through interactive workshops about introductory level Computer Science concepts and app development.
- Planned Breakout Rooms to demonstrate JavaScript tutorials on App Lab and assisted teams of 4 members throughout building an App for those who are affected by Food Insecurity.

University of Illinois at Chicago

Mobile Application Developer for GPIP Research Program

Chicago, IL

July 2020 - August 2020

- Worked closely with Professor Ugo Buy on a 6-week long research program done on Mobile App Development to develop a Cross-Platform UIC Application for Android and IOS systems on Expo using React-Native.

PROJECTS

Naïve Bayes Classification and Linear Regression Model, Machine Learning, UIC

- Developed Naïve Bayes Classification from scratch to implement for SMS Message Classification achieving 95.2% accuracy.
- Trained a Linear Regression model for a Wine Quality Dataset to minimize the Loss Function for different methods of Learning, such as Gradient Descent and Closed-form Solution achieving Mean-Squared Error of only 2.5% using both methods.

k-Nearest Neighbors Classifier and Cross-Validation, Machine Learning, UIC

- Implemented the k-Nearest Neighbors Classifier and Cross-Validation from scratch and applied it to a real-world problem of optical character recognition (OCR) for the MNIST Dataset, as well as Iris Plant Recognition attaining 97% accuracy.

15 Puzzle, Software Design, UIC

- Designed a JavaFX Program allowing users to solve a 15 Puzzle, individually or by using the AI Algorithm, A*, for calculating the 10 next moves using 2 separate heuristic functions.

Huffman Encoding, Data Structures, UIC

- Developed an application for Compressing and Decompressing Text Files using the Huffman Encoding algorithm and custom-made priority queue implemented via Binary Search Trees for Proper Memory Management.