Saim Zafar

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Skills

- **Languages** : Python, C++, Java, JavaScript, SQL, HTML, CSS
- **Frameworks / Tools** : MySQL, React, SqLite, IntelliJ, PyCharm, Atom, VS Code
- Strong communication skills in multiple languages both verbally and written including English
- Familiar with Agile methodologies and Software Design Life Cycle

Certifications

Specialization with Python – *Coursera, University of Michigan* – *Certificate*   Oct 2021
- Studied major Python topics such as strings, collections, iterables, modularity and objects
- Built strong fundamentals in core software concepts such as data structures, APIs, and databases
- Developed a web crawler to parse email data and visualize most frequently used words in a word cloud

Algorithm Toolbox – *Coursera, University of California San Diego* – *Certificate*   Jan 2022
- Studied multiple new algorithms and computed their time and space complexity
- Optimized inefficient programs using new techniques and stress tested them to ensure correctness and efficiency

Mathematical Thinking in Computer Science – *Coursera, University of California San Diego* – *Certificate*   Sept 2021
- Studied the role and objectives of induction, recursion, logic, invariants and their importance in Computer Science

Projects

 Search Engine   – *Python, SQL*   Sept 2021 - Dec 2021
- Crawls the web by performing multiple searches from an initial point and storing the results in a database
- Used the Page Rank algorithm to rank the stored data and view most the most relevant results
- Setup a visual interface showing the interconnected nature of web pages with the help of d3 library

 University World Map   – *Python, SQL*   June 2019 - Sept 2019
- Used Google's GeoCoding API to fetch the location of multiple universities and visualize it on a world map
- Stored the locations into a MySQL database to prevent exceeding Google's API rate limiter
- Setup a visual interface displaying the university locations on a world map using an internal library

 Visualizing email dataset from gmane.org   – *Python, SQL*   Sept 2020 - Dec 2020
- Searched through gmane.org's email dataset to identify top participants, organizations, and topics
- Setup visualization using d3 library to show common email subjects in a word cloud

 Friend Web   – *Python, SQL*   Sept 2021 - Present
- Used Twitter's API to spider through any twitter account and construct a connection graph
- Identified the connection link between two users using graph theory (BFS)
- Created a visualization to display the connection link between two users

Education

University of Waterloo - Candidate of Bachelor of Honours Mathematics   Jan 2021 - Present
- GPA 3.61/4.0
- Awarded President's Scholarship of Distinction and President's Upper-Year Awards

Volunteer Experience

- Inter College Event - Volunteered to organize an inter-college event at my college in 2016 by the name Pegasus.
- Cancer Aid Society - Volunteered with the Cancer Aid Society and helped them raise funds and awareness at my school.