Charles Shi

shi46@illinois.edu | (612) 986 - 0487 | Eden Prairie, MN
 linkedin.com/in/cshi02 | github.com/CharlesShi12 | charlesshi12.github.io

EDUCATION

University of Illinois at Urbana-Champaign Expected May 2023
Bachelor of Science, Statistics and Computer Science GPA: 3.9/4.0

- Relevant Coursework: Data Structures and Algorithms, Software Design Studio, Computer Architecture, Discrete Mathematics, Linear Algebra, Multivariable Calculus, Statistics and Probability

EXPERIENCE

AT&T — *Incoming Software Engineer Intern* June 2021 - September 2021

- Projects, teams, and tasks will be determined at a later time.

Futurist Academy — *Software Developer Intern* July 2020 - September 2020

- Created a similarity search algorithm that takes in any research paper and outputs similar COVID-19 research papers.
- Extracted keywords from more than **125,000** COVID-19 research papers using Natural Language Processing and wrote GSQL queries that found similar research papers by calculating their Jaccard similarity index.
- Built and used REST APIs in Python to interact with TigerGraph and enhance overall security.
- Developed a personalized patient dashboard using Dash, Plotly, and GSQL that gives doctors an in-depth analysis of synthetic patient data through statistics and visualizations.

Minnesota Mandarin Christian Church — *Software Developer* June 2018 - June 2020

- Built a responsive website using HTML, CSS, and JavaScript to assist the church in combating their low attendance.
- Maintained the website on a weekly basis and updated it whenever new information (bulletins, retreats, sermons) needed to be released.

STEM Builders — *Computer Science and Robotics Teacher* September 2018 - Present

- Taught programming languages (Python, Java, HTML/CSS, MIT App Inventor, Scratch) and robotics to **K-8** students.
- Successfully mentored more than **50** students and gained leadership experience after adapting to unforeseen circumstances.
- Designed/planned final projects that assessed the students' problem solving skills while incorporating their interests.

PROJECTS

Pickup — *React, JavaScript, HTML/CSS, MapBox GL, Firebase, APIs* Minnehack 2021 Winner

- Collaborated with a team of developers to create a web application capable of linking people who are in need of food with restaurants that have excess food after working hours.
- Utilized a snapshot listener and APIs which connected the React and MapBox GL frontend with the Firebase backend to produce synchronous updates between users.

CalcShare — *JavaScript, HTML/CSS, Kotlin, Web Sockets, APIs*

- Constructed an interactive web-based calculator that allows real-time collaboration between users.
- Developed a JavaScript client to communicate with server rooms, implemented web sockets to handle the constant influx of data, and interacted with a REST API to compute equations inputted by the user.

Image Filtering — *Python, Machine Learning, PPM Image Formatting*

- Implemented a Python program that uses unsupervised machine learning to reduce an image down to however many core colors its users select.
- Applied PPM raster image formatting and constructed a k-means clustering algorithm to find the dominant colors of an inputted image and reduce the image based on those colors.

SKILLS

Languages: Python, C++, Java, HTML/CSS, JavaScript, Kotlin, SQL, GSQL
Frameworks/Technologies: React, Flask, Express, Node, Git, TigerGraph, Firebase