Charles Shi

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EDUCATION

University of Illinois at Urbana-Champaign <div align="right">Expected May 2023</div>

Bachelor of Science, Statistics and Computer Science <div align="right">GPA: 3.9/4.0</div>

- 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* <div align="right">June 2021 - September 2021</div>

- Projects, teams, and tasks will be determined at a later time.
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- Pellentesque gravida feugiat turpis, at rhoncus massa luctus suscipit. Curabitur pretium, erat et aliquam lobortis, eros magna gravida leo, in volutpat tellus nunc at odio.

Futurist Academy — *Software Developer Intern* <div align="right">July 2020 - September 2020</div>

- Created a similarity search algorithm that takes in any research paper and outputs similar COVID-19 research papers using the Jaccard similarity index, Natural Language Processing and graph databases.
- Utilized Plotly/Dash and GSQL to develop a personalized patient dashboard with data visualizations and patient statistics.
- Implemented and used REST APIs in Python to interact with TigerGraph and enhance overall security for projects.

STEM Builders — *Computer Science and Robotics Teacher* <div align="right">September 2018 - Present</div>

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

Minnesota Mandarin Christian Church — *Software Developer* <div align="right">August 2017 - March 2020</div>

- Built a responsive website using HTML/CSS and JavaScript to help the church grow and expand their congregation.
- Maintained the website weekly and updated it whenever new information (bulletins, retreats, sermons) needed to be released.

PROJECTS

Pickup — *React, JavaScript, HTML/CSS, MapBox, Firebase, APIs* <div align="right">MinneHack 2021 Winner</div>

- Collaborated with a team of developers to construct an application capable of linking people who are in need of food with restaurants that have excess food after working hours.
- Connected the React frontend with Firebase using APIs to produce synchronous updates between authenticated users.
- Placed **1st** out of more than **100** participants in the University of Minnesota's annual hackathon.

Image Filter — *Python, Machine Learning, PPM Image Format*

- Implemented a program that uses machine learning to reduce an image down to however many core colors its users select.
- Constructed a k-means clustering algorithm to find the dominant colors of an image and reduce it to only those colors.

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

- Built an interactive web calculator that allows real-time collaboration between users who are in the same room.
- Developed a JavaScript client to communicate with the servers and designed web sockets to handle the constant influx of data.

Tumor Scanner — *Python, TensorFlow/Keras, Neural Network*

- Worked with other developers to create a Convolutional Neural Network that can identify tumors from brain MRI scans.
- Trained the neural network with over **7,000** images and modified it to obtain a final accuracy of **95%**.

SKILLS

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