

YUQING (NERWEN) CAO

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712-360-4063 | Austin, TX

EDUCATION

The University of Texas at Austin, *Bachelor of Science in Computer Science*

May 2026

GPA: 3.82

Coursework: Data Structures, Software Engineering, Elements of Software Design, Computer Organization and Architecture, Probability and Statistics, Matrix Calculations, Discrete Math, Differential Equations with Linear Algebra, Multivariable Calculus

SKILLS

Languages: Python, Java, C, JavaScript, HTML, CSS, C++

Frameworks/libraries: NumPy, Scipy, Matplotlib, scikit-learn, ReactJS

RESEARCH AND PROJECTS

D3 (Data, Discovery, Decision) Lab

January 2024 – Present

- Started on a data processing and ML development project to enhance research on gravitational waves
- Organized and generated a master dataset in preparation for training inference models

Dynamic Memory Allocator

February 2024

- Designed a C program for memory allocation and deallocation using linked lists
- Utilized heap management techniques like splitting and coalescing free memory blocks

Freshman Research Initiative – White Dwarf Stream

January – December 2023

- Used machine learning tools and Python libraries such as NumPy, scikit-learn, UMAP, Astropy and Scipy to analyze astronomy data and classify lightcurves of stars; showcased findings with Matplotlib
- Earned a \$2,000 fellowship for summer 2023; presented “White Dwarfs as Probes of Long-term Planetary System Evolution” at Bash Symposium 2023; created a poster titled “UMAP Classification of White Dwarf Pulsations”

Huffman Coding and Compression

November 2023

- Built a Java program that performs Huffman coding, which encodes data by constructing optimal prefix codes based on the frequency of characters in the input files
- Executed seamless file compression and decompression across various file formats to ensure storage optimization

Sustainability World Map

March 2023

- Created a website of an interactive world map using “Shiny for Python” web development package
- Raised awareness about environmental issues with data visualization of CO2 emissions of all the countries across the years

WORK EXPERIENCE

Sanger Learning Center, Austin, TX

August 2023 – Present

Tutor

- Courses: Data Structures, Elements of Computers and Programming, Elements of Software Design
- Explained foundational concepts such as data structures, algorithm analysis, object-oriented programming
- Guided tutees through the problem-solving process, enhancing their ability to tackle challenges

LEADERSHIP AND COMMUNITY INVOLVEMENT

Austin Chinese Campus Christian Fellowship (ACCCF)

August 2023 – Present

Officer

- Advertised for the welcome night and had a turnout of 80+ people; planned icebreakers to foster a welcoming environment; led weekly discussions for a group of 10; followed up with attendees and received positive feedback

CS Roadshow, Astronomy Student Association (ASA)

August 2022 – Present

Volunteer

- Introduced computer science concepts and career paths to high school students in the local community
- Assisted in star parties at nature preserves and explained astronomy concepts to the public
- Presented at science nights in elementary schools and STEM Girls Day to encourage kids to pursue STEM