

Warren Fu

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EDUCATION

University of Colorado, Boulder

Boulder, CO

Bachelor of Science in Computer Science, Minor in Math

August 2022 – May 2026

- Major GPA: 4.00 | Cumulative GPA: 3.94
- Awards: Dean's List(2022 - 2024), HackCU (2024), T9 Hacks (2023)
- Competitions: ICPC (2023 - 2024), CodeForces, LeetCode
- Completed Coursework: Data Structures & Algorithms, Database Systems, Data Science with Python, Intro to AI, Machine Learning, Robotics, Principles of Programming Languages, Graduate Level Algorithms, Cybersecurity, Object Orientated Analysis and Design, Capstone - Software Engineering Project

EXPERIENCE

Research Assistant - CU Program Languages and Verification Lab

May 2024 - Present

University of Colorado, Boulder

Boulder, CO

- Collaborated with the members from the CUPLV Lab to investigate the accuracy of LLMs in SQL query generation on the LLM SQL Synthesis project.
- Authored detailed technical reports and documentation for the developed components (validator, solver, emulator), ensuring clarity and reproducibility for future research.

Teaching Assistant - Algorithms & Intro to AI

January 2024 - Present

University of Colorado, Boulder

Boulder, CO

- Demonstrated a deep understanding of Data Structures, Algorithms, and AI to effectively assist students.
- Led office hours for 8-10 students per session, providing comprehensive assistance in both Algorithms and Intro to AI, evidenced by consistently positive feedback and high return rates for further guidance.

Software Engineer Intern

April 2022 – May 2023

7D Imaging

Boulder, CO

- Contributed to an agile startup environment, collaborating closely with cross-functional teams to rapidly iterate on user requirements and deliver features for an ultrasound education app.
- Designed and deployed an engaging, responsive UI/UX, now featured in the app store, which enhanced user satisfaction and received positive client feedback for its intuitiveness and effectiveness.
- Led the development of core features to enhance app usability and engagement, including authentication, customizable interface themes, and interactive content in React Native

PROJECTS

LLM SQL Synthesis | *Python, SQL, Pandas, Numpy, MyPy*

May 2024 - Present

- Designed and developed a novel solution for improving the accuracy of LLMs on critical tasks such as program synthesis. Worked with collaborators from the CUPLV lab, to create a validator, solver, and emulator to verify the correctness of a programming language such as SQL.
- Engineered core components - validator, solver, emulator - which generates and solves conditions based on a query.
- Combined the core components with the LLM for step-by-step evaluation of each output

RedditBot | *Python, AWS Polly, moviepy*

March 2024

- Developed a Python-based bot that automates the creation of TikTok-style videos, featuring Reddit stories narrated with text-to-speech using AWS Polly.
- Integrated dynamic subtitles that change for every spoken word, enhancing viewer engagement and accessibility.
- Utilized MoviePy for video editing, including overlaying text and visuals to match audio narration.

YoutubeDataConvert | *Python, OpenCV, Numpy*

November 2023

- Personal Project designed to seamlessly convert files into a series of photos and vice versa, ensuring zero data loss.
- This endeavor, built from scratch, leverages Python's Numpy, Pillow, and OpenCV libraries and integrates FFmpeg and youtube-dl repositories.
- Future plans include deploying this innovative solution on a web platform.

SKILLS

Languages: C++, C, Python, Java, Scala, MySQL, SQLite

Frameworks and Libraries: Pandas, Numpy, OpenCV, Matplotlib, Pillow, PyTorch

Developer Tools: GitHub, VS Code, Docker, Figma