Benjamin Cai

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Work Experience

Institute for Computing in Research

40 hours per week

Research Intern

July 2024 - August 2024

- Deployed a free and open-source R model for the identification of transmission clusters
- Conducted a comparative analysis of state-by-state transmission clusters for SARS-CoV-2
- Wrote a paper detailing findings and presented results at TyRex

XBiotech

40 hours per week

Quality Control Intern

July 2022 - August 2022

 Performed testing on upstream titer, osmolality, and pH samples utilizing Octet Red96e, osmometers, and pH meters for quality assurance

ACES Academic Enrichment Center

40 hours per week

Chess Teacher

July 2023 - August 2023

- Reviewed major tournaments, including the 2023 Tata Steel Masters and World Chess Championship, to enhance student understanding of high-level play
- Tailored individualized puzzles and study materials for each student

Austin Great Wall Chinese School

2 hours per week

Chess 1 & 2 Group Instructor

December 2022 - present

 Developed comprehensive curriculum, teaching materials, and homework assignments for classes of 10

BioBQ

2 hours per week

Data Analyst Intern

August 2024 - present

- Planned the configuration and specifications for a bioreactor microscope camera system
- Employed YOLO (You Only Look Once) to analyze cell growth in team of 3

SEA-PHAGE Austin Community College

3 hours per week

Annotator and Programmer

August 2024 - December 2024

- Ran plant samples and BLASTed to get species name
- Annotated the genome of *Teodoridan*,

LASA Math Peer Tutor

1 hour per week

Algebra-Calculus Tutor

August 2023 - present

- Provided peer assistance in solving math problems during lunch hours

Mathnasium

5 hours per week

Math Instructor

May 2024 - August 2024

Delivered math instruction utilizing the Mathnasium method

Volunteer Experience

St. David's Medical Center

8 hours per week

Hospital Volunteer

June 2024 - August 2024

- Provided assistance to patients in wheelchairs
- Served as a front desk clerk, managing inquiries and directing visitors within the facility

Austin Public Library

40 hours

Library Volunteer March 2023 - October 2023

- Organized and shelved books according to the Dewey Decimal System

Food Bank Volunteer

51.5 hours

Central Texas Food Bank

January 2022 - present

- Sorted and inspected food items for quality and safety, ensuring proper distribution
- Operated pallet jacks to efficiently manage inventory and streamline operations

Chinese New Year Volunteer

25 hours

Austin Chinese American Network

December 2022 - present

- Coordinated volunteer activities within the booth section, optimizing resource allocation
- Performed piano solos and duets for event attendees
- Organized various events such as chess and origami

Elderly Care Home Performer

15 hours

N/A

April 2023 - present

- Performed a repertoire of current piano solos and duets to entertain residents

Leadership Experience

Chess Club 2 hours per week

Hospital Varsity Captain and President

August 2022 - present

- Planned and managed tournaments at LASA
- Led LASA Team to regional victories at city and state

Psychology Club

1 hour per week

Founder

October 2023 - Febuary 2024

- Carried out advertising campaigns through posters and announcements
- Researched concepts and prepared in-depth presentations for members (Forer Effect, Pollyanna Principle, Person-positivity bias, Benjamin Franklin Effect, etc.)

Outreach

Chess Organization

4 hours per week

Co-founder of Pawns to Prodigies Chess Club

May 2023 - present

- Secured \$1,000 in funding from the Austin Chinese American Network
- Expanded chess outreach in Austin through a partnership with the Austin Public Library
- Organized volunteers to facilitate tournaments
- Maintained an active membership base of about 25

Skills & Awards

- Programming Languages: Python, C++, R, Lua, bash, Java, JavaScript
- Technologies: Vim, Git, SSH, LaTeX, HTML, CSS, Markdown, Onshape
- Lab Techniques: ELISA, cGMP training, Flow Cytometry, Sanger, PCR, Cell Culture
- Natural Languages: English, Chinese, Spanish
- Current Piano Repertoire: Chopin's Ballade 1, Chopin's Ballade 4, Tchaikovsky Piano Concerto 1