Tanner Weston Hornsby

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EDUCATION

Computer Science and Mathematics with Specialization in Machine Learning September 2020 - Present
University of Chicago, Chicago, IL

WORK EXPERIENCE

Backend Software Engineer Intern June 2023 - September 2023
Data For The Common Good, Chicago, IL

- Extended an existing database to collect and store user input on clinical trials, enhancing data management capabilities and facilitating a streamlined user experience.
- Utilized FastAPI with Postgresql, AWS, and psycopg2, along with a Python ORM, to represent the database, ensuring efficient data handling and seamless integration between the application and the extended database. Additionally, performed smooth database migration using Alembic, while effectively collaborating with coworkers using Jira and GitHub for streamlined communication and issue tracking.

Software Engineer Intern August 2021 - March 2022
Hohonu Water Level Monitoring, Chicago, IL

- Developed data visualizations using the Pandas and NumPy Python libraries to communicate coastal water level trends and patterns to stakeholders.
- Implemented an RMSE validation algorithm to evaluate prediction accuracy, resulting in a significant average improvement of approximately 3% compared to NOAA data.

Research Assistant June 2018 - August 2020
Energy Engineering Lab at the University of North Texas, Denton, TX

- Designed and implemented an ultrasonic anemometer for use in the wind lab, which enhanced the accuracy and reliability of wind energy studies in the lab.

LEADERSHIP EXPERIENCE & ACTIVITIES

Founder and Captain of UChicago Robotics Club August 2020 - January 2022
University of Chicago, Chicago, IL

- Led the rapid growth of the club, expanding membership from 4 to 50 within just 3 months, demonstrating effective leadership and organizational skills.

Public Relations Director of Phi Delta Theta Fraternity May 2022 - Present

PROJECTS

CrustyDB

Created a DBMS in Rust for a databases class project, featuring a relational model implemented on heap files, a custom storage manager, and a query parser and optimizer. Implemented a two-phase locking protocol for concurrency control. Leveraged the volcano iterator for efficient query building and optimization, ensuring optimal performance on school servers.

HONORS & SKILLS

- Extensive data visualization work in Python using TensorFlow, Keras, PyTorch, Pandas, and NumPy
- Skilled at database development using Rust, Python, SQL, pyscopg2, AWS, and Firebase
- Proficient in Python, C/C++, Javascript, HTML, CSS, Racket, R, and C#
- Experienced with Arduino, Raspberry Pi, and Linux OS