Corinn Tiffany

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Third-year undergraduate in computer science seeking experiences at the intersection of data science and systems. Passionate about ethical AI and software for social good.

EDUCATION

Brown University   **Providence, RI | Expected Graduation May 2025**
B.S. Computer Science, B.A French 3.8/4.0 GPA   Machine Learning/AI & Systems Tracks

Relevant Courses: Privacy-Conscious Computer Systems, Deep Learning, Deep Learning for Genomics, Data Structures and Algorithms, Theory of Computation, Honors Statistical Inference I, Linear Algebra

WORK EXPERIENCE

Centrillion Technologies, *Data Science Intern*   Palo Alto, CA | Summer 2023
- Optimized a workflow for analyzing exceptionally large datasets, enabling multiprocessing within RAM constraints; decreased runtime of a critical analysis step from 22 hours to 24 minutes
- Developed a custom image parsing system and sequence prediction deep learning model for signal processing
- Managed complex range of dependencies in all projects using Conda environments for portability
- Prepared and presented comprehensive documentation of the methods and algorithms used in both projects

Brown University Dept. of Computer Science, *Teaching Assistant*   Providence, RI | June 2022 - Present
- Hold office hours to explain conceptual material and help students debug assignment code
- Provide constructive feedback on program testing, code readability, and problem approach
- Mentor students and organize mixers for underrepresented groups

Brown University Larschan Lab, *Undergraduate Researcher*   Providence, RI | June 2022 - Present
- Develop modular and well-documented pipelines for analysis of RNA-seq and DRIP-seq data in Python and R
- Handle high throughput datasets on Brown's high-performance computing cluster
- Collaborate and communicate with other lab members, PhD students, and Dr. Erica Larschan

Brown University Dept. of Computer Science, *Undergraduate Researcher*   Providence, RI | September 2023 - Present
- Brown's Efficient and Trustworthy Operating Systems group under Dr. Malte Schwarzkopf
- Project TBD as of September 2023

LEADERSHIP EXPERIENCE

Women in Data Science at Stanford, *WiDS Next Gen Committee Member*   Palo Alto, CA | May 2020 – Present
- Host panels and informational meetings featuring accomplished female data scientists
- Develop educational youth outreach materials such as lesson plans, discussion guides, and programming activities
- Organize student-oriented data science events such as conference screenings and application advising

***Mot pour Mot* Literary Journal,** *Co-editor in Chief*   Providence, RI | December 2022 – Present
- Curate and edit submissions for Brown's French-language literary journal

PROJECT EXPERIENCE

SARS-CoV-2 Resequencing Model   **Python, TensorFlow, OpenCV** | Centrillion Technologies
- A hybrid CNN-RNN model to predict the sequence of a viral sample given sequencing chip signal data
- Developed a robust image parsing system for input microscope images that outperformed accepted solution

Transformer Image Captioning Model   **Python, TensorFlow,** | CSCI1470 Deep Learning
- Implemented a transformer architecture to generate captions for images from the Flicker8k dataset
- Calculates self-attention in caption text and cross-attention between images and captions

Caching I/O Implementation   **C** | Fundamentals of Computer Systems
- A cached input/output library to reduce the number of disk operations required to read and write to a file
- Developed an adaptive prefetching scheme to track the pattern of file access to increase performance

DRIP-seq Data Analysis Pipeline   **Python, Bash, Slurm** | Larschan Lab
- A pipeline to process, analyze, and visualize DRIP-seq data across three treatment groups
- Automates end-to-end analysis of experimental data on high-performance computing clusters

SKILLS, INTERESTS, & AWARDS

Technical Skills: Python, C/C++, Java, R, Slurm for HPC, TensorFlow, NumPy, Linux, Git/version control, Conda
Awards: Foster Prize (Brown University French Department), National Merit Scholarship Recipient
Outside Interests: Literature, long-distance running, houseplants, sourdough science