Daisy Zheng

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EDUCATION

University of California, Los Angeles (UCLA)
Master of Science, Computer Science
2020 - 2022 (Expected) GPA: 3.964

Cornell University
Bachelor of Science, Computer Science Minor: Biological Sciences
2014 - 2018 GPA: 3.598

EXPERIENCE

UCLA September 2021 - June 2022 (Expected)
Graduate Teaching Assistant

- Graduate TA for the CS 182 course in the Fall and CS 186 course in the Winter and Spring quarters of the 2021-22 academic school year at UCLA
- Prepare and lead lab sections, hold office hours, answer student questions, and work with the Professor to ensure smooth running of the class

Corteva Agriscience May 2021 - August 2021
Bioinformatic Software Systems Engineering Intern

- Migrated the SNP discovery system to use AWS's ARM-based EMR clusters and launch its Spark jobs inside Docker containers: wrote the necessary bootstrapping to cross-compile 3rd party tools for ARM and setup the cluster, automated the build/publish of Docker images used for Spark jobs, and performed regression testing and comparative analysis against the legacy system
- Collected and analyzed runtime data to show that moving to the new Dockerized ARM system cuts costs by roughly 20% and improves performance for complex queries

Yext July 2018 - August 2020
Software Engineer (Tech-3 Level)

- Led implementation of a prototype for a new system of site generation and publishing, which was one of the first projects to use the company's next generation infrastructure - the new system eases and accelerates the generation/publishing workflow and increases robustness
- Rebuilt the web scraping server using Docker in Kubernetes, drastically reducing error rates and decreasing scan latency from several minutes down to just a few seconds
- Designed and implemented new features and optimized existing flows for the flagship Answers product and others as part of the R&D team
- Mentored an intern over the summer, took on a lot of responsibility and independence early on after becoming the sole full-time developer on my team before merging into a larger team

Biogen June 2017 - August 2017
R&D IT Intern

- Built a 3D neuron tracer and dendritic spine detector that automates the time-consuming and labor-intensive task of manually analyzing neuron scans, reports on various metrics, and visualizes the results in interactive 3D
- Tackled an industry challenge that has so far been met with limited success, providing a proof of concept that paves the way for target screening capabilities with reduced bias

Infinity ProAV June 2016 - August 2016
Computer Vision Intern

- Worked with a stereo camera system to reconstruct a 3D mesh of the environment from 2D photos and extract the foreground object of interest using Python, optimized the stereo algorithm for use in real-time detection of vehicles

SKILLS

Java, Python, C++, Go, JavaScript, HTML/CSS, WebGL, Three.js, NumPy, jQuery, D3

PROJECTS

- Mobile and desktop game developed over two separate semesters that were released to the public at the Game Design Initiative at Cornell's annual showcase. Led the implementation of diverse enemy AI and the fog/visibility system (both core features) as well as visual effects shaders and program architecture. **1st place Audience Choice Award. Software lead of mobile game (team of 7). Graphics lead of desktop game (team of 6). Named MVP through team member reviews.**
- Random terrain generator with interactive camera controls. Simulated rain/snow weather effects and day/night environments, included effects like water animation, reflections, displacement mapping, and atmospheric scattering.
- Electromyography (EMG) signal decomposer that uses unsupervised machine learning techniques to analyze messy real-world surface EMG data. Identifies and classifies individual action potential spikes and resolves superimpositions through signal processing, feature extraction, and soft c-means clustering, then performs firing pattern analysis on the results.

AWARDS

Graduated Cum Laude from Cornell University	2018
1st Place Audience Choice Award at GDIAC public showcase for team's mobile game	2018
Most Valuable Player of GDIAC 6-student team based on peer reviews	2017
3rd Place Audience Choice Award at GDIAC public showcase for team's video game	2017
Dean's List from Cornell University - Fall '17, Spring '17, Spring '15, Fall '14	2017
Mindsumo Challenge Winner for data visualization competition entry at Mindsumo.com	2016
2nd Place Cache of Kings Bot in class-wide single elimination tournament	2015
Harvard Book Award for academic excellence and strong character	2014

LEADERSHIP

Cornell Wushu – Practice Leader	August 2014 – May 2018
Illuminations Dance Troupe – Choreographer	August 2015 – May 2018
Project Hope at Cornell – Co-publicity Chair	August 2016 – May 2017
Concrete Canoe Project Team – Aesthetics Subteam, Historian	August 2014 – May 2015

SELECT COURSEWORK

- Artificial Life
- Computer Vision
- Computer Graphics
- Artificial Intelligence
- Machine Learning in Bioinformatics
- Graph Neural Networks
- Advanced Computer Game Architecture
- Data-Driven Web Applications
- Operating Systems
- Computational and Systems Biology: Modeling and Simulation
- Neuroengineering
- Proteins and Metabolism
- Molecular Biology
- Principles of Animal Physiology
- Genetics and Genomics Laboratory
- Learning and Memory
- Music on the Brain
- Introduction to Behavior
- Organic and Biological Chemistry