Yuren Sun

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EDUCATION

Stanford University September 2022 - June 2024

Master of Science in Computer Science, Information Management and Analytics Specialization

Related Courses: Machine Learning on Embedded Systems (I/P), Bioinformatics (I/P)

University of Wisconsin – Madison July 2018 - December 2021

Bachelor of Science in Computer Sciences, Economic, and Mathematics with Comprehensive Honors, 3.97/4.00

Related Courses: Algorithm, Database, Linear Optimization, Operating Systems, Stochastic Processes, UX, Wearable Technology

Related Awards: Holstrom Environmental Research Fellowship (2021), CS Department Golden Brick Award (2019 & 2021)

TECH SKILLS: Python, C/C++, Java, HTML, CSS, JavaScript, React, TensorFlow, SQL, Swift, Linux, Git, Tableau, Stata

TEACHING: Course Assistant for Computer Graphics (Blender and Python), Peer Mentor for Operating Systems (C) and UX (React)

WORK EXPERIENCES

Software Development Engineer Intern, Amazon Web Services, East Palo Alto, CA June 2021 - September 2021

- Designed and implemented a project for local reproductions on non-data dependent issues to improve debug abilities for Redshift
- Created catalog functions to extract names of tables and views from queries and trace down dependencies of views with C
- Developed the pipeline to retrieve the data definition languages (DDLs) from query texts with automatic dependency tracking
- Developed broad tests on catalog functions and the whole project for the feasibility of functionalities and coverages of edge cases

Innovations Intern, American Family Insurance, Madison, WI May 2020 - August 2020

- Developed the prototypes and the minimum viable products (MVPs) with HTML, JavaScript, and CSS
- Designed, implemented, and refined the user interface based on the interviews with target customers
- Deployed the prototypes and the MVPs with serverless web applications for user data collections with Amazon Web Services (AWS)
- Managed AWS resources with Terraform to enhance the workflow and automated the source code delivery with CI/CD pipelines

PUBLICATION

Sun, Y., et al. Classification of animal sounds in a hyperdiverse rainforest using convolutional neural networks with data augmentation. *Ecological Indicators*, vol. 145, 2022, p. 109621., https://doi.org/10.1016/j.ecolind.2022.109621.

SELECTED ACADEMIC AND RESEARCH EXPERIENCES

Frog Audio Detection September 2022 - Present

Utilize convolutional neural networks with data augmentation to classify the frogs based on their sounds with Python and TensorFlow, and develop pipeline to process the audio data and detect the occurrences of frogs in the recordings of two years

Smart Ankle Sensor September 2021 - December 2021

Enhanced ankle braces that track movements with sensors, send sensor data to phone with microcontroller and Bluetooth, and notify users when the wrong movements are detected with an iOS application to avoid further injury from mild ankle sprains

Stethoscope for the Rainforest January 2020 - December 2021

Developed pipeline to generated dataset and used convolutional neural networks to classify the animals with small sample sizes based on audio with Python and TensorFlow, and improved the model accuracy to over 90% with transfer learning and data augmentation

Page Replacement Simulator November 2020 - December 2020

Read the trace files with over 10 million traces, created the process table as a hash table, and simulated the scheduling process and page replacement of the traces with linked lists and hash table, and FIFO, LRU and Clock algorithms in C in Linux environment

Course Search App October 2020

A web application to simulate the course search and recommendation process with HTML, CSS, JavaScript, React, and Bootstrap

Badger Database March 2020 - April 2020

Developed A database application with buffer pool to hold pages with Clock algorithm for buffer replacement policy, and an integer B+ tree index that simulated the process to store, get, and delete the data in files on disk with C++ in Linux environment