Sohyun (Lenna) Park

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SKILLS & ABILITIES

Programming: Python, Java, C++, HTML, CSS, JavaScript, jQuery, jest, MIPS assembly language
Tool/Libraries: MySQL, Pandas, NumPy, Matplotlib, Bootstrap, React, Django, Flask, JUnit, Unittest, Android Development, Git

WORK EXPERIENCE

Distributed Autonomous Systems Laboratory, University of Illinois at Urbana-Champaign
Undergraduate Research Assistant *Jan. 2022 – Present*
· Designed a soft-arm robot that picks up crops and performs pest detection through camera radars and Legendre Memory Units
· Tuned hyperparameter to select an optimal set for the learning algorithm of the robot control
· Monitored the movement of the soft-arm robot and write reports regarding drawbacks

Science Gateways Community Institute (SGCI) Coding Institute, Elizabeth City State University
Software Engineer Intern *Jun. 2021 – Aug. 2021*
· Trimmed CSV file of COVID-19 trends by utilizing Pandas library from Python to extract data of COVID-19 recovery rate
· Performed data analysis and graph visualization on COVID-19 recovery rate trend using Python and Flask
· Implemented an administration system which managed name, role, department, and phone number using Unix scripts for virtual patients and employees in a hospital

PROJECTS

HackIllinois 2022: Analyzing & Visualizing Public Opinions on Russian-Ukraine War *Feb. 2022*
· Developed an interactive website utilizing HTML, CSS, and JavaScript that demonstrated visualization of public opinions and received user input to analyze the stance of user on the war through team's machine learning model and present related tweets
· Retrieved Twitter posts using twitter API and processed the data by conducting filtering labels
· Filtered tweets solely related to the team's topic and conducted a sentiment analysis on the given data

OpenFlights: Determining Cost Efficiency Between Two Airports *Oct. 2021 – Dec. 2021*
· Calculated the minimum cost path from a source to destination airport by utilizing datasets from OpenFlight in a 4-person team
· Implemented Dijkstra's shortest path algorithm using the comparison between the adjacency cost matrix and the shortest distance cost to find the cheapest route from a source to a destination
· Incorporated Breadth-First Search (BFS) to traverse all connected vertices from the source airport and compute possible destinations
· Employed iostream, fstream, and sstream libraries and BFS method to visualize a directed graph presenting the edge list that contained the shortest path from a source airport to a destination airport in the form of a text file

Computer Science Course Model *Sep. 2020 – Dec. 2020*
· Built an Android app in which users could type and search CS courses at UIUC and rate the courses using Java for both front-end and back-end development
· Manipulated Jackson for deserializing JSON file that contained course summary to recover to the original objects of summary
· Implemented front-end using XML and back-end development based on MySQL, designing UI/UX of the app and developing codebase structure

EDUCATION

University of Illinois at Urbana-Champaign *Aug. 2020 – May. 2024 (Expected)*
Bachelor of Science in Computer Science GPA: 3.87/4.00
Data Structures & Algorithms; Software Design Studio; Discrete Structures; Computer Architecture

LEADERSHIP & ACTIVITIES

Coding Club "Codable" at UIUC, Champaign, Illinois
Python Team Leader *Aug. 2020 – Present*
· Created a semester-long coursework that leverages members' comprehension in Python that explores important topics including dynamic programming and parallel programming
· Collected image data by web scraping and implemented image classification using the TensorFlow package
· Presented and code reviewed regarding the progress the team had made each week at the general meeting

CS 124: Intro to Computer Science (Java and Kotlin) at UIUC, Champaign, Illinois
Course Assistant *Aug.2021 – Dec. 2021*
· Led help site 2-hours/week to support students in solving homework, fixing errors in their machine project, and preparing for exams
· Created 3 lecture videos for students to elevate understanding of the course materials