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RAFAEL ADRICULA

SKILLS

Languages: Python, C++, Java, SQL, C

Programs: Git, Eclipse, VSCode, Xming, Linux, UNIX, Microsoft Excel

Libraries: NumPy, TkInter, Pygame, JSON, SciPy, Flask, sklearn, Anaconda3

PROJECTS

Large-Scale Search Engine

- Used methods implemented by search engines today including inverted and bigram indices, and token stemmers
- Implemented a web-based user interface using the Flask library
- Parsed over 10,000 pages to make data retrieval of short queries less than 0.6 seconds
- Utilized the Pickle library to condense search data to objects that improved search term retrieval time by 300%

Chat Client

- Created a chat client similar to iMessage that allows up to 10 users at a time to communicate with each other both personally and in chat rooms
- Utilized multithreading to increase speed at which messages are sent between users
- Created unique job and message data structures to easily encrypt and decrypt a message sent to another user using sockets and linked data structures

Rain Predictor

- Participated in a Kaggle competition that provided a dataset that included over 200,000 entries and created a predictor that ranked in the 90th percentile
- Utilized ensembles of methods to optimize results such as neural networks, gradient boost, and decision trees
- Implemented a weighted system that modified during runtime in order to determine which predictor would yield the most accurate results depending on the data point

EXPERIENCE

Computer Science Lab Tutor   Irvine, CA

ICS 31: Introduction to Programming   September 2019 - December 2019

- Answered questions regarding Python concepts and homework assignments
- Conducted a weekly report regarding student activity, attendance, and acts of academic dishonesty
- Led discussions with 40 students on algorithms and software development principles

EDUCATION

University of California, Irvine – B.S. Computer Science '21   Irvine, CA

GPA: 3.6

Relevant Coursework: Linear Algebra, Discrete Mathematics, Data Structures, Computer Architecture, Information Retrieval, Databases, Machine Learning, Operating Systems, Design and Analysis of Algorithms, Software Testing and Quality Assurance