Raul Daniel Higareda

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Portfolio

Education

University of Illinois at Urbana-Champaign — Champaign, Illinois
Bachelor of Science in Computer Science and Statistics — *Aug. 2021 – Fall 2024*
LAS James Scholar Honors

GPA: 3.8 / 4.0

Experience

Undergraduate Research Assistant — Jan 2022 – Present
Parasol Lab — *Champaign, Illinois*

- Contributing to the library the research group created
- Refactoring existing code, Writing test-cases for algorithms using C++

Course Associate for Computer Science Principles I (CS124) — January 2022 – Present
University of Illinois at Urbana-Champaign — *Champaign, Illinois*

- Contributed to lesson solutions/videos
- Helped guide students with solving programming problems
- Helped proctor quizzes

Projects

Social Media Visualizer | *C++, Docker* — 2022

- Used the betweenness centrality algorithm to determine the most influential person on the Facebook dataset
- Utilized Dijkstra's to find the number of connections between a random user to the most influential user
- Visualized results on terminal

Rust-Battleship | *Rust* — 2022

- Constructed a game of battleship in Rust that runs on the command line and plays against the computer
- Developed structure of the game, how the game initializes, the opposing AI, and the way game visuals are outputted

Artsi | *ReactJs, JavaScript, npm, yarn, HTML, CSS* — 2022

- Constructed a website that acts as an entry point into the creation of drawings
- Provided a way for lesson videos to be uploaded and stored and to let users create a profile and search for videos
- Implemented the overall design layout of the website and drawing spaces

Classification of Stellar Objects | *Jupyter Notebook, pandas, NumPy, Matplotlib* — 2022

- Cleaned a dataset and used it to train a random forest classifier
- Evaluated the accuracy of the model by creating a confusion matrix and evaluating the precision and recall metric

Technical Skills

Languages: Java, Python, C/C++, Java, JavaScript, HTML/CSS, R, Rust, LaTeX
Frameworks: React, Node.js, Material-UI, Anaconda, Jupyter Notebook
Developer Tools: Git, Docker, VS Code, Visual Studio, Eclipse
Libraries: pandas, NumPy, Matplotlib, PyTorch

Relevant Coursework

Completed: Data Structures, Calculus III, Linear Algebra, Statistics & Probability I & II, Numerical Methods I, Intro Differential Equations
Spring 2023: Intro to Computer Systems, Algorithms & Models of Computation, Deep Learning for Computer Vision, Statistical Modeling I