Juan de la Cruz

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PROGRAMMING

Daily use:
Python • R • C++

Regular use:
JavaScript • HTML \ CSS

Occasional use:
Matlab • SQL

Tools & Utilities
Git • Excel • Tableau Desktop
LaTeX• bash • JSON

EDUCATION

UNIVERSITY OF THE OZARKS
Clarksville, AR
Expected graduation date: Dec, 2021
Major(s): Mathematics & Chemistry
Minor(s): Computer Science & Economics

COURSEWORK

UNDERGRADUATE

Mathematics and Programming
Calculus II & III
Advanced Calculus
Probability and Statistics
Linear Algebra
Discrete Mathematics
Abstract Algebra
Data Structures and Algorithms

Chemistry
General Chemistry I & II
Quantitative Chemical Analysis
Physical Chemistry
Organic Chemistry
General Physics

RESEARCH INTERESTS

Computational Chemistry • Numerical Analysis • Computational Biology • AI • Bioinformatics • Fluid Mechanics

OTHERS

LANGUAGES
English (Advanced) • Spanish (Native)

EXPERIENCE

UNIVERSITY OF THE OZARKS | Data Analyst and Health Informant
August 2020 – Present | Clarksville, AR

- Created new, experimental frameworks to collect data from Salesforce CRM environment
- Built tools for automated collection to create data visualizations and dashboards for the university's business unit, marketing department, and institution research.

JONES LEARNING CENTER | Academic Tutor - SCC-TRIO Program
August 2018 – May 2020 | Clarksville, AR

- Enhanced student learning by optimizing a wide range of instructional approaches and innovative classroom activities.
- Supported 8 students to improve academic achievements in Calculus III, Discrete Mathematics, and General Chemistry I.

RESEARCH

ADVANCED MATERIALS RESEARCH CENTER | Research Intern | Poster
Jun 2019- Jul 2019| Chihuahua, Mexico

- Research performed during the 15th Summer Research Program at CIMAV in the Computational Crystallography lab.
- Introduced an automatic-fitting option for various parameters in a 2D X-ray diffraction novel software package (ANAELU) through genetic algorithms.

PROJECTS

COVID-19 DASHBOARD | Website, Article

- Prepared data dashboards and other visualizations to support decision-making for COVID surveillance, outbreak and response activities at the university.
- Performed Python data analysis, data mining, and metric analysis.

FLOWCHECKED | Website, Github

- Implemented Navier-Stoke equation to build 2D airflow simulation and model the spread of airborne viruses in indoor spaces.
- Applied the finite difference method to solve the NS equation in various layouts.

PINK CODE | Website, Github

- Created a convolutional neural network to classify mass lesions as either benign or malignant with a 93 % of accuracy.
- Applied Image enhancement operations like contrast, color-balance, and sharpening to get meaning full data from the mammography scans.

AWARDS AND SCHOLARSHIPS

2020	1st	CdeCMx Challenge: Health and environmental impact
2020	3nd	COVID-19 Data Challenge: Navigating life and work in border communities
2019	1st	Arkansas Undergraduate Mathematics Competition
2019	2nd	Annual Arkansas Phi Beta Lambda Competition: Statistical Analysis
2019	2nd	Integration bee competitions MAA OK-AR Section
2019	2nd	Math Jeopardy competition MAA OK-AR Section
2019	3rd	A.R.C.H. Symposium Oral Presentation
2018	1st	Walton International Scholarship: Full ride scholarship