Rafael A. Espinoza
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EDUCATION

Boston College *August 2020 - May 2024*

- *Bachelor of Science in Computer Science, Minor in Mathematics*
- Relevant Courses: Algorithms, Computer Vision, Object-Oriented Programming, Large-Data Processing

EXPERIENCE

Advanced Paperworks Inc *El Paso, TX*
Design Engineer Intern *June 2021 – August 2021*

- Collaborated with engineers to update and improve production designs using AutoCAD, reducing quality control errors by 20%.
- Utilized Microsoft Access to manage linked forms concerning inventory, quality control, and part management between the computer's networks.

Boston College Law School *Boston, MA*
Audio Visual Technician *August 2022 – May 2024*

- Configure and disassemble audio and visual equipment for law school functions accommodating audiences of up to 100 attendees. Proficiently diagnose and rectify technical problems with computer, projector, and speaker systems.
- Communicate and delegate hardware and maintenance requests across 3 different departments.

PROJECTS

Spootify

- Developed a Python program to analyze the user's most recently played songs on Spotify to determine their current mood using the Spotify API.
- Utilized supervised learning with sklearn's RandomForestClassifier, achieving 82% accuracy, and provided data visualizations and analysis using Matlab.

Fashionista

- Trained a Mask R-CNN model for fashion image detection and classification using COCO weights, and implemented data augmentation, KFold cross-validation, and optimization of learning rates and epochs.
- Improved model accuracy by 15% through iterative testing and performance evaluation on the iMaterialist Fashion 2019 dataset.

Large-Data Processing Final Project

- Tackled the problem of finding large matchings in undirected graphs using several algorithms including Path Growing Algorithm, Blossom Algorithm, and an enhanced greedy algorithm with streaming capabilities.
- Implemented the Path Growing Algorithm using Apache Spark for distributed computing, addressing memory constraints by transitioning to streaming data processing for large datasets.
- Achieved optimal results in handling large datasets, processing over 117 million edges sequentially in just 84.24 seconds on a local machine.

ACTIVITIES

Computer Science Society *(Boston, MA)* *Fall 2021 – May 2024*
Marketing Team Member and Sponsorship Coordinator

- Developed and implemented social media advertising strategy for school events, resulting in an increased attendance from the student body.
- Established connections with Boston College alumni to secure five sponsorships for club events, including our annual hackathon.

SKILLS & INTERESTS

Coding Languages - Python, HTML, CSS, SQL, and Java
Technologies – Microsoft Office (Excel, Word), Matlab, PyTorch, NumPy, Pandas, JSON, AutoCAD, Apache Spark
LinkedIn Certifications – SQL Essential Training, Python Structures and Algorithms
Languages - Native Spanish Speaker
Interests - Fishing, Hiking, Camping, Basketball, Weightlifting, True Crime, A24 Studios, Art, and Computer Vision