

Joaquin Mendoza

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EDUCATION

San Diego State University

B.S. in Computer Science

San Diego, CA

Aug. 2021 – Dec. 2024

EXPERIENCE

Software Engineer Intern

Real Frequency – Launch Agency

May 2023 – Present

Spokane, WA (Remote)

- Develop and oversee a data reporting system using Flask, SQL, and HTML, saving \$50k in labor costs annually.
- Implement data integration solutions using Pandas and SQLAlchemy, cutting data entry time by 25 hours weekly.
- Facilitate business decisions with dynamic and interactive data visualizations using Pandas and Plotly.

Research Student Assistant

IT Division, San Diego State University

Dec. 2022 – Present

San Diego, CA

- Build instruction-facing Docker containers on National Research Platform's (NRP) hypercluster: Nautilus.
- Collaborate with Microsoft and AWS teams to bolster enterprise AI solutions for research, instruction, and IT.
- Harness DevOps practices with Git, Prometheus, and CI/CD pipelines, delivering features and bug fixes weekly.

PROJECTS

Client Data Reporting System | *JavaScript, Flask, HTML/CSS, SQLAlchemy, Plotly*

Aug. 2023 – Present

- Produced 162+ interactive dashboards monthly for 25 sports organizations, leveraging Flask, Plotly, and SQL.
- Deployed centralized logging and monitoring, cutting weekly system downtime by 5 hours.
- Alleviated a crucial bottleneck in client support and saved over 10 hours in weekly manual data entry.

Geospatial Clustering for Habitat Analysis | *Python, Scikit-Learn, Rasterio, Matplotlib*

Feb. 2024 – Present

- Analyzed the spatial intersection between undeveloped parcels and wildlife data with the DBSCAN++ algorithm.
- Enabled the discovery of non-convex, density-based clusters for high-dimensional, large datasets.
- Revealed the impending habitat loss and fragmentation of 16+ species native to Lake Tahoe, CA region.

Spotify Song Recommendation Engine | *Python, Scikit-Learn, Spotify API, Requests*

Feb. 2024 – Present

- Leveraged Pandas and Scikit-learn to fit a K-means++ clustering algorithm to a 150k song public dataset.
- Employed the Elbow Method, PCA/t-SNE analysis, and heat-map analysis, resulting in a 0.4 Silhouette Score.
- End goal: Deliver personalized song recommendations on web/mobile formats, tailored to users individual music preferences.

Storage Provisioning for Kubernetes Cluster | *Kubernetes, Helm, Kubespawner, GitHub Actions*

Dec. 2023

- Designed a Read-Write-Once Persistent Volume Claim (PVC) for Public Health graduate courses.
- Optimized secure access to 100+ GB biomedical datasets with KubeSpawner provisioning logic.
- Eliminated large file transfers and local copies, resulting in streamlined data retrieval for graduate students.

TECHNICAL SKILLS

Languages: Python, C/C++, JavaScript, SQL, HTML/CSS

Frameworks: Flask, Scikit-Learn, PyTorch

Developer Tools: Git, Docker, Kubernetes, GitHub Actions (CI/CD), Heroku, VS Code, Jupyter

Libraries: SQLAlchemy (ORM), Pandas, Plotly, Requests, NumPy, Matplotlib, Rasterio