Joaquin Mendoza

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Education

San Diego State University San Diego, CA
B.S. in Computer Science *Aug. 2021 – Dec. 2024*

- **GPA**: 3.82/4.00 Cumulative, 4.00 Major
- **Relevant Courses**: Machine Learning, Data Science, Algorithms, Database Theory, UNIX System Admin.
- **Extracurriculars**: Waterski Club (Vice President), AI Club (Project Lead), Pickleball Club (D1 Team)

Experience

Software Engineer Intern May 2023 – Present
Real Frequency – Launch Agency *Spokane, WA (Remote)*

- Develop and oversee a data reporting system using Flask, SQLite, and HTML, saving $50k in labor costs annually.
- Implement data integration solutions using Pandas and SQLAlchemy, cutting data entry time by 25 hours weekly.
- Write automation scripts with Google App Scripts to synchronize G-Suite apps, resulting in 15-hour weekly time savings for the team.

Research Student Assistant Dec. 2022 – Present
IT Division, San Diego State University *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.
- Implement DevOps tools like Git, CI/CD, and Kubernetes to streamline weekly feature releases and bug fixes.

Projects

GeoNest (AI Club) | *ArcGIS Online, Scikit-Learn, Rasterio, Matplotlib* Feb. 2024 – May 2024

- Analyzing the spatial intersection between the wildlife-urban interface and land cover with geospatial clustering.
- Enabling the discovery of habitat fragmentation and overall ecological health within the Lake Tahoe, CA region.
- End goal: Reveal areas threatened by impending habitat loss due to urban encroachment and tourism.

Sharp Eye (CS 574) | *Ultralytics, PyTorch, Matplotlib, OpenCV* Feb. 2024 – May 2024

- Developing a computer vision system to track players and the ball during pro pickleball videos and broadcasts.
- Utilizing transfer learning techniques by fine-tuning the YOLOv8 model on over 740 annotated video frames.
- End goal: Unify both tracking models into a stable and efficient web application for real-time tracking at 30fps.

Real Insights (Real Frequency) | *JavaScript, Flask, HTML/CSS, SQLAlchemy, Plotly* Aug. 2023 – January 2024

- Built a standalone user analytics system, leveraging a 3rd-party LMS REST API for creating actionable insights.
- Produced 162+ interactive dashboards monthly for 25 sports organizations, using Flask, Plotly, and SQLAlchemy.
- Alleviated crucial bottlenecks in client analysis and saved my team over 10 hours in weekly manual data entry.

KubeSync (IT Division) | *Kubernetes, Linux, GitLab, GitHub Actions* Dec. 2023

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

Technical Skills

Languages: Python, C/C++, JavaScript, Java
Frameworks: Flask, Scikit-Learn, PyTorch, Google App Scripts
Developer Tools: Linux, Docker, Kubernetes, REST APIs, Git, GitLab, GitHub Actions (CI/CD)
Libraries: SQLAlchemy (ORM), SQLite, Pandas, Plotly, Matplotlib, Rasterio