Dulce Torres

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Education

University of California Berkeley — Berkeley, CA
Master of Science in Molecular Science and Software Engineering — *May 2025*

University of California San Diego — La Jolla, CA
Bachelor of Science in Chemistry — *June 2023*

Experience

Bio-informatics Intern — January 2025 – May 2025
Genialis

- Built and applied the ETL pipeline on over 18 million gene annotations from heterogeneous sources
- Developed and tested zero-shot, multi-shot, CoT, and MedPrompt prompting strategies
- Developed a Python package that streamlines source data preparation and REST API calls to a RAG-augmented OpenAI LLM
- Created unit tests using pytest to ensure the quality of the data preparation pipeline

Research Assistant — September 2023 – May 2024
University of California San Diego — *La Jolla, CA*

- Synthesized compounds leading to an SCP1 inhibitor
- Demonstrated chemical understanding by using Reaxys to propose potential synthetic routes
- Characterized compounds through NMR and MS analysis

Undergraduate Research Assistant — June 2021 – August 2021
University of Oregon — *Eugene, OR*

- Synthesized asymmetrical indenofluorene compounds
- Worked up crude compounds through column chromotography and separation techniques
- Demonstrated effective communication by presenting an oral report to PIs and graduate students within the Chemistry, Physics, and Materials Science department

Projects

Computer Vision Disaster Classification | *Python, Keras, Jupyter*

- Extracted RGB, Sobel edge, Gabor filter, and local binary patterns from 26,535 images to determine features of interest based on varying class distributions
- Developed a CNN model aimed at distinguishing fire and flood images, resulting in 93% accuracy
- Mitigated issues of an imbalanced training data set when developing and training a multi-class classification CNN model by gauging F1 scores
- Created and fine-tuned a logistic regression model to explore the tradeoffs of utilizing varying machine learning methods for binary classification of flooding and fire disasters

Monte Carlo Simulation | *C++, Python, NumPy, Git*

- Developed a C++ script for modeling a Monte Carlo simulation based on the Lennard Jones potential energy of a system
- Improved the time complexity of a Monte Carlo simulation based on the python standard library by integrating NumPy methods to expedite element wise calculations
- Demonstrated expertise in version control by developing commits, merges, and pulls within GitHub throughout the duration of the three-person project

Skills

Languages: Python, C++, SQL, yaml
Developer Tools: Git, Docker, VS Code, GitHub
Cloud Platforms: Microsoft Azure
Libraries and Frameworks: pandas, NumPy, Matplotlib, Scipy, scikit-learn, TensorFlow, Pytorch, Keras, Eigen, Armadillo, Seaborn, OpenMP, OpenMPI, RDKit
Relevant Coursework: Data Structures and Algorithms, Machine Learning Algorithms, Data Science, Numerical Algorithms, Leadership and Project Management