Gabriel Rodriguez

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EDUCATION

Cal State Fullerton | **Fullerton, CA**

B.S. in Computer Science, Minor in Data Science   **Expected June 2026**

Citrus College | **Glendora, CA**

A.S. in Computer Science   **June 2024**

RELEVANT COURSEWORK

- Object Oriented Programming, Python Programming, Computer Architecture, Discrete Structures
- Algorithm Engineering, Software Engineering, Computational Bioinformatics, Calculus 2
- Artificial Intelligence, Intro to Data Science and Big Data, Statistics, Machine Learning

TECHNICAL SKILLS

Programming Languages: Python, R
Libraries/Frameworks: PyTorch, Torchvision, OpenCV, NumPy, Pandas, Scikit-learn, Matplotlib
Concepts: Machine learning, Deep Learning, Computer Vision, Data Preprocessing, Agile, Scrum Methodology
Tools: CUDA, Git/GitHub, PyCharm, Visual Studio, JupyterLab, Google Colab

PROJECTS

MRI Brain Tumor Classifier (**CNN**) | Python**,** PyTorch, Torchvision, OpenCV   **In Progress**
- Designed and trained a CNN to classify glioma, meningioma, and pituitary tumors from a dataset of 18,000 brain MRI images.
- Applied normalization, histogram equalization, and data augmentation to MRI datasets, enhancing CNN classification accuracy.

Diabetes Prediction Model (**ANN**) | Python**,** PyTorch, Pandas   **January 2025**
- Engineered a PyTorch-based neural network to analyze patient medical data, achieving 80% accuracy in diabetes prediction.
- Developed feature analysis methods to enhance model recall to 92% on diabetic cases, improving diagnostic sensitivity.

Chess AI Engine | Python, Pygame   **January 2024**
- Constructed a Python chess engine employing bitboard representation to optimize move generation speed by 30%.
- Enhanced strategic evaluation in a Python chess engine by integrating heuristics such as iterative deepening and piece square tables, reducing search errors.

EXTRACURRICULAR EXPERIENCE

Data Science and Machine Learning Club | **Cal State Fullerton**   **Present**
- Participated in ML workshops and collaborative coding challenges.
- Co-developing a breast cancer tumor stage classifier using the TNM grading system.
- Took leadership in feature engineering, model selection, and cross-validation pipeline.