Isabella V. Garcia

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Education

University of California, San Diego 07/2022 – 06/2026
B.S., Bioengineering: Bioinformatics; Minor: General Biology *GPA: 3.71*

Skills

Languages	Python, R, bash, Java, C++
Bioinformatics	NGS sequence analysis, sequence alignment, genome assembly & annotation, biological database design & querying, public repositories (NCBI, Ensembl)
Data & ML	Machine learning (classification, feature selection), statistical & comparative analysis, data visualization; pandas, NumPy, scikit-learn
Systems	Unix/Linux, HPC & remote development, pipeline development, Git/GitHub

Technical Experience

J. Craig Venter Institute (JCVI) 07/2025 – 06/2026
Senior Design Researcher, UC San Diego Bioengineering *La Jolla, CA*

- Built machine learning software in Python on a two-person team under Dr. Max Qian to classify leukemia and predict patient outcomes from flow cytometry data
- Applied feature selection and classification modeling across 16 parameters and 288 patient samples, evaluating model performance against clinical outcome labels
- Synthesized an extensive literature review and reported findings to the group weekly in formal written reports
- Authored the project's analysis of ethics, safety, design considerations, and engineering standards

Genentech – Outstanding Student Awardee Intern 06/2025 – 09/2025

- Selected as an Outstanding Student Awardee for a 3-month internship in the Media & Process Group, Cell Culture and Bioprocess Operations
- Led design and implementation of a Python tool performing novel metabolic analyses, mining 2 years of historical process data alongside literature-derived methods to improve bioprocess operations
- Presented results to the group and at the Intern Project Showcase poster session

Cabrales Lab @ UC San Diego – Undergraduate Research Assistant 10/2023 – 06/2025

- Research assistant in the Functional Cardiovascular Engineering Research Group under PI Pedro Cabrales
- Led software development on hyperspectral characterization of hemoglobin-based oxygen carriers (HBOCs) using a microfluidic chip
- Led rapid low-cost %HbS quantification assay project
- Presented research poster at Spring 2024 Undergraduate Research Symposium

Relevant Coursework

- **BENG 181 – Molecular Sequence Analysis:** sequence alignment, dynamic programming, HMMs, phylogenetics
- **BENG 182 – Biological Databases:** schema design, curating and integrating public genomic data
- **BENG 183 – Applied Genomic Technologies:** sequencing platforms, read mapping, RNA-seq, functional genomics
- **CSE 151A – Machine Learning:** supervised/unsupervised learning, model selection, regularization, evaluation
- **CSE 185 – Advanced Bioinformatics Lab:** genome assembly, variant calling, analysis pipelines on Unix/HPC