

# RAUL G. MARTINEZ

@ gio.mtz3@gmail.com

+1 619-734-6231

San Diego, CA

in raul-giovanny-martinez-688b1bb4

raulgiovannymartinez

## WORK EXPERIENCE

### Data Engineer I, Illumina

July 2020 – Present

San Diego, CA

- Developed data integration strategies, ETL processes, and analytics for manufacturing of Next-Generation Sequencing (NGS) platform's test data.
- Configured SQL Server database and performed ad-hoc queries to gather instruments data for investigation or analysis.

### Integration Research Associate I-II, Illumina

July 2018 – July 2020

San Diego, CA

- Executed integration and systems support for NGS platforms along the different stages of product development and functional areas including optics, hardware, fluidics, software, and chemistry components.
- Created data pipelines (R, Python, MATLAB) for aggregation, analysis, and visualization (Dashboarding) of NGS instruments data including primary/secondary metrics, engineering tests, reports, and diagnostic logs.
- Developed algorithms for image processing, manipulation, and transformation using python libraries (i.e. NumPy, PIL).

### Pharma Technical Development Intern, Genentech

February 2018 – July 2018

South San Francisco, CA

- Contributed with the virology group on process validation and viral clearance studies for the production of therapeutic monoclonal antibodies.
- Investigated virus titers by implementing DOEs, cell culture, infectivity assays, qPCR, and virus purification by following GLP and GDP standards.

### Support Specialist, Dotmatics

December 2017 – February 2018

San Diego, CA

- Collaborated with Developers and Scientists to deliver solutions by testing software UI and querying/modifying relational databases using SQL.

### Data Analyst, Retrovirox

May 2016 – July 2017

San Diego, CA

- Implemented fast turn-around data analysis and processing workflows for high-throughput screening (with FACS Flow Cytometry) of hundreds of novel small-molecules with antiviral and other activities.
- Facilitated data handling and documentation (i.e. aggregation, backup and management) for R&D experiments with script automation and by authoring Standard Operating Procedures (SOPs).

## RESEARCH AND PROJECTS

### Predicting Helpfulness of Amazon Reviews

April 2020 – Jun 2020

San Diego, CA

- Analyzed numerical and text data from 200,000 reviews in order to extract useful information with feature engineering and NLP techniques. Feature selection was done with an ablation study.
- Developed a Random Forest Regressor Model to predict the ratio between the number of helpful votes with total votes, performance metrics used include MAE, MSE, precision, and recall.

### Identifying Oncogene-Specific Essential Genes

January 2016 – June 2016

San Diego, CA

- Evaluated a bioinformatics prototype, with R language statistical methods based on distributional entropies and kernel-based density estimators to find drug sensitivity profiles that match patterns of gene expression (over 10,000 variables).

## EDUCATION

### Masters Degree in Data Science and Engineering, GPA 4.0/4.0

September 2019 – Present

University of California, San Diego  
(June 2021)

### Bachelors Degree in Bioengineering: Biosystems, GPA 3.4/4.0

October 2014 – June 2017

University of California, San Diego  
Minor: Entrepreneurship and Innovation

## PROFESSIONAL SKILLS

#### Domain Related

Data Visualization

Data Mining

Data Management

Data Integration

ETL Pipelines

Big Data

Neural Networks

Statistics

Machine Learning

Hadoop

Spark

#### Programming

Python

R

Matlab

C/C++

PyTorch

SQL

APIs

Bash Scripting

HPC Cluster

Object Oriented

#### Computer Software

Git

Tableau

Denodo

SAS JMP

Amazon S3

PostgreSQL

SQL Server

## RELEV. COURSEWORK

Data Integration and ETL

Beyond Relational Data Models

Machine Learning

Data Analysis Using Hadoop and Spark

Probability & Statistics Using Python

Data Management Systems

Python for Data Analysis

## ACHIEVEMENTS

Chancellor's Associate Scholar - UCSD  
(2014-2017)

Community College Scholarships - "ASO  
Campus Involvement" and "Neva Smith"  
(2014)