

Jonathan Zamora

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EDUCATION

- **University of California, San Diego** San Diego, CA
B.S. in Computer Science; GPA: 3.566 / 4.00 *Jun. 2020 – Present*
 - **Undergraduate Coursework:** Introduction to Python (A+), Teaching Computational Thinking for Everyone (A+), Discrete Mathematics (B-), Introduction to CS Research (IP)
- **Grossmont College** San Diego, CA
A.S. in Computer Science, Mathematics, and Physics; GPA: 3.988 / 4.00 *Aug. 2018 – May 2020*
 - **Undergraduate Coursework:** Intermediate Java and Data Structures (A), Intermediate C++ Programming (A+), Assembly Language & Machine Architecture (A), Discrete Structures (A), Intro to SQL (A+), Multivariable Calculus (A), Linear Algebra (A), Modern Physics (A+)

RESEARCH AND WORK EXPERIENCE

- **Mesirov Lab, UC San Diego School of Medicine** San Diego, CA
Bioinformatics Researcher (PI: Jill P. Mesirov) *Jun. 2020 – Present*
 - **Cancer Genomics & GenePattern:** I am developing Software Modules for GenePattern [an open-source software package for genomic research] to provide our users with access to Seurat's Quality Control and Genomic Analysis tools.
 - **Machine Learning & R:** I have developed R Scripts that utilize PCA (Principal Component Analysis) for cell clustering and UMAP (Uniform Manifold Approximation and Projection) for dimension reduction of single-cell cancer data.
 - **Docker & Bash:** I have written Bash Scripts that communicate with GenePattern Docker Containers for local testing of GenePattern Modules.
- **Early Research Scholars Program, UC San Diego CSE Department** San Diego, CA
Computer Vision Researcher (PI: Taylor Berg-Kirkpatrick) *Oct. 2020 – Present*
 - **Print and Probability:** Our research project's goal is to accurately transcribe historical text documents from the Printing Press Era using computer vision techniques.
 - **Python, OpenCV, and PyTorch:** Our work will be done by utilizing Convolutional Neural Networks and dynamic programming alongside well-known frameworks like OpenCV and PyTorch.
- **CodePath, UC San Diego** San Diego, CA
iOS Student *Oct. 2020 – Present*
 - **Swift Programming, APIs, & App Development:** Learning about iOS development in Swift through a project-based course that culminates in a group project competition.
- **ACM AI, ACM at UC San Diego** San Diego, CA
Director of Marketing *Oct. 2020 – Present*
 - **Project Manager, Marketing, & Sponsorship:** As the Director of Marketing for ACM AI, I manage and work with a group of marketing and sponsorship coordinators to help foster the growth and development of our 300+ ACM AI members.
- **Computer Science & Information Systems Open Lab, Grossmont College** San Diego, CA
Computer Science Tutor [Level 2] *Aug. 2019 – Present*
 - **Computer Science Topics:** I assist students in all core lower-division CS courses including Data Structures in Java, Data Structures in C++, Assembly Language & Machine Architecture, Python, SQL, Programming Logic, and Discrete Structures
 - **Information Systems Topics:** I also assist students in courses that cover Microsoft Office and Linux
- **Google ExploreCSR, UC San Diego CSE Department** San Diego, CA
Machine Learning Researcher *Jan. 2020 – Aug. 2020*
 - **Epileptic Seizure Detection:** I worked with a CSE Ph.D. student at UC San Diego to understand the mathematical underpinnings of logistic regression and gradient descent to perform a seizure-detection analysis on EEG data.
 - **Python, NumPy, Matplotlib, and Pandas:** I utilized Scientific Python libraries to perform the epileptic seizure detection analysis in a Jupyter Notebook.

PROJECTS

- **Seurat.BatchCorrection Module:** Implements a batch-correction algorithm on single-cell gene expression data. Written in R for GenePattern Software Package
- **iOS Apps:** Developed a *Twitter Clone*, *Instagram Clone*, and *Flixster Clone*

PROGRAMMING SKILLS

- **Technical Languages:** Python, C++, Java, SQL, R, Swift, L^AT_EX
- **Spoken Languages:** Spanish (Native), English (Native)
- **Technologies:** PyTorch, Tensorflow, Keras, Docker