Jonathan Zamora

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Education

- **University of California, San Diego** — San Diego, CA
  B.S. in Computer Science; GPA: 3.566 / 4.000 — *Expected: June 2022*
  - **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 / 4.000 — *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, LaTeX
- **Spoken Languages**: Spanish (Native), English (Native)
- **Technologies**: PyTorch, Tensorflow, Keras, Docker