**Joshua T. Burrows**

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**SUMMARY**

Bioinformatics and Bioengineering student currently pursuing a master’s degree. Looking to pursue an internship and career in the fields of biology and biotechnology.

**EDUCATION**

**UC San Diego**

**B.S., Biology and Bioinformatics, Minor in Computer Science** March 2022

* GPA: 3.9, Magna Cum Laude
* Coursework: Data Structures, Recommender Systems, Bioinformatics Laboratory, Microbiology Laboratory, Genetics, Molecular Sequence Analysis

**UC San Diego**

**M.S, Bioengineering** September 2022 – June 2024

* GPA: 4.0
* Coursework: Systems Biology: Biological Components and Large-Scale Data Analysis, Biochemistry, Cell Biology

**SKILLS & ACTIVITIES**

Awards: Boy Scouts of America - Eagle Scout (2017) and Vigil Honor (2017)

Skills:

Technologies: Python, Java, MATLAB, Bash Scripting

Biological Technologies: Bioinformatics Tools and Algorithms, RNA Sequencing Data Processing, Sterile Technique

**Work Experience:**

**UC San Diego, San Diego, CA December 2022 – Present**

**Student Researcher, Systems Biology Research Group**

* Worked with RNA-seq data to analyze gene regulation using independent component analysis.
* Analyzed public datasets, aligned and performed quality control on relevant data for *S. cerevisiae* and *Listeria.*

**UC San Diego, San Diego, CA April 2023 – Present**

**Teaching Assistant**

* Led discussion sections and office hours for courses on Genetics and Discrete Mathematics
* Assisted in grading and developing instructional material for students.
* Displayed skills necessary for instruction of scientific and mathematical concepts necessary to develop students’ critical thinking skills.

**UC San Diego, San Diego, CA September 2022 – December 2022**

**Teaching Assistant**

* Served as a teaching assistant assisting a course of approximately 90 students.
* Assisted in creation of assignments and tests based on course material and past course assignments.
* Displayed and instructed skills necessary for bioinformatics analysis and understanding of data generation techniques.

**School Projects:**

Bioinformatics Project:

* Analyzed single-cell RNA-seq data from the CancerSEA database using machine learning methods.
* Recreated figures directly from raw data from a research paper relating to RNA sequencing data in mice.
* Utilized bioinformatics tools for RNA aligning, bash scripting, and figure generation in R and Python.
* Analysis of publicly available single-cell RNA cancer datasets for exploration of data quality and cell differentiation

Computer Science Projects:

* Implementation of various algorithms related to bioinformatics, including string alignment and pattern matching.
* Recommender systems coursework including TF-IDF and machine learning and regression for analysis of public datasets.