



**JACOB DOERING-POWELL**

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Currently based in Los Angeles

<https://www.jacobdp.com>

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## Experience

### **BIOINFORMATICS ENGINEER, EMPIRICO • MARCH 2021 - PRESENT**

- Developing apps, internal tools, and bioinformatics pipelines in order to find drug candidates via translational genetics
- Building software with React, Python, and PySpark to handle large genetic datasets

### **RESEARCH TECHNICIAN, PETERS LAB, LA JOLLA INSTITUTE OF IMMUNOLOGY • SEPT 2019 - MARCH 2021**

- Wrote a python package to generate Peptide:MHC binding energy covariance matrices ( hosted on pypi for pip install at <https://pypi.org/project/pmbec/> )
- Developed models for predicting the binding affinity of peptides to MHC class I molecules that reduce the inherent bias against Cysteine residues, producing more accurate predictions

### **SOFTWARE ENGINEER INTERN, MOMENTIVE.AI (PREV. SURVEYMONKEY) • JUNE 2019 - AUGUST 2019**

- Created a survey parser tool to transfer surveys between databases or data centers
- This tool helped Engineers and QA staff save hours of time by automatically transferring surveys between servers for them, and is still being used at the company

### **SOFTWARE ENGINEER INTERN, CITY OF SAN DIEGO • AUGUST 2018 - JUNE 2019**

- Automated the collection, cleaning, and distribution of energy data from various IoT devices
- Built a variety of databases and APIs for future data leverage and cost vs. power analysis

### **COMPUTER SCIENCE TUTOR, UCSD DEPT OF COMPUTER SCIENCE & ENGINEERING • SEPT 2018 - DEC 2018**

- Tutored Introduction to Programming I in Java under Prof. Minnes and Prof. Politz
- Held open lab hours to help students with programming assignments and in-class questions

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## Education

### **UNIVERSITY OF CALIFORNIA, SAN DIEGO • Sept 2016 - December 2020**

- B.S. in Computer Science with a specialization in Bioinformatics [ **3.68 GPA** ]

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## Awards and Recognition

### **Winner of the IGNITE | SCALE | Hackathon San Diego • April 2019**

- Helped build the Chalk platform, where communities could decide on public art

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## Skills & Projects [ Github: [jacobdp24](https://github.com/jacobdp24) ] [ Personal Website: <https://www.jacobdp.com> ]

- Python, React, Java, C++, Docker, Airflow, Databricks, AWS S3, SQLAlchemy, Flask, Django, Git, shell scripting, unit testing, Jupyter Notebooks, REST API development.
- Software: Extensive experience using Matplotlib, pandas, NumPy, and PySpark libraries for data processing, cleaning, prediction, and visualization. Experience with delta and parquet files for data engineering use. Broad experience with Keras, scikit-learn, and SciPy for data science use, moderate experience with PyTorch and TensorFlow. Vast experience with web scraping, specifically in python. Built apps/interfaces with React (one of them being my website).
- Bioinformatics: Developed and dockerized alignment and analysis pipelines for long-read sequencing, bulk cell RNA-seq, and single cell RNA-seq. Experience with assembly, GWAS, and population genetics.