# **DAVID BAN**

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in diban

**J** 435-237-2078

## **EXPERIENCE**

### **Full Stack Intern**

### **Enable Medicine**

 **June 2022 - August 2022** 

San Francisco, CA

Image Processing

GitLab

- Developed and implemented pipeline integration for generation of cell analysis and insight
- Developed data and image analysis of cell annotations and screenings
- Created front end application in the Enable Medicine website which allows users to generate their own analysis of cell types and distances

AWS React Python SQL

Software Engineering Intern

## Materials and Fuels Complex - Idaho National Laboratory

- **June 2021 August 2021**
- Idaho Falls, ID
- Developed software and hardware tools to reconstruct 3-D object geometry from 1-D profile measurements
- Verified software reconstruction with data from 3D printed mock cladding
- Streamlined and packaged code for future use in analysis of nuclear fuel rod cladding

Python Plotly Pandas Arduino C++

# Machine Learning / Bioinformatics Research Computational Biology Dept of University of Pittsburgh

- **i** July 2018 July 2020
- Pittsburgh, PA
- Designed and built spatial transformer neural networks to predict proteinligand binding
- Researched models using various metrics and visualizations
- Presented results at several science fairs and national symposiums

PyTorch Python Caffe C++ Bash Unix/Linux

# **NOTABLE CLASSWORK**

Linear Algebra and Differential Equations  $\cdot$  Probability Theory  $\cdot$  Foundations of Data Science  $\cdot$  Designing Information Devices and Systems I-III  $\cdot$  Data Structures  $\cdot$  Efficient Algorithms and Intractable Problems  $\cdot$  Machine Structures and Computer Architecture  $\cdot$  Algorithms for Computational Biology  $\cdot$  Operating Systems and Systems Programming

# **PROJECTS**

**BearBeats**: A web-based soundboard with user customisable sounds and controls

HTML+CSS Javascript

**Gitlet**: An object-oriented implementation of the control-system - a distributed version control system built from scratch.

Java

PintOS: a simple operating system framework built from scratch

# С

# AWARDS & ACHIEVEMENTS



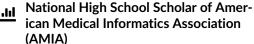
#### U.S. Presidential Scholar

Recognized as one of two scholars from Pennsylvania who demonstrated exceptional talent and accomplishment in career and technical education fields.



### **National Merit Scholar**

One of 8000 students distinguished for high standardized test scores



Selected as one of the six high school to present during the AMIA Annual Symposium Conference - "Using Deep Learning with Spatial Transformations to Predict Protein-Ligand Binding"



#### **Piano Soloist**

Several notable performances including with the Utah Symphony and awards including first prize at the Pittsburgh International Piano Competition

## **SKILLS**

## **Programming Languages**

Python Bash LaTeX Java

C++ C Javascript Scheme

Arduino HTML+CSS

### **Development Tools & Environment**

Git Unix/Linux Windows

Anaconda IntelliJ React

## Frameworks & Databases

PyTorch Pandas Plotly Numpy

MatPlotLib Matlab Caffe AWS

SQL

Proficient in English, Elementary Proficiency in Mandarin and French

# **EDUCATION**

University of California, Berkeley Major in Computer Science

**2020** - Ongoing

Berkeley, CA

Senior Standing in the college of Letters and Sciences