

Emma Holt

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EDUCATION

University of California, Berkeley

Bachelor of Arts in Computer Science

GPA: 3.7

Aug. 2020 – May 2024

Oxbridge Academic Programs at Cambridge University

Computer Science Major

GPA: 4.0

July 2018

EXPERIENCE

Data Research Assistant

University of California, Los Angeles

June 2019 – May 2020

Los Angeles, CA

- Worked under a UCLA cardiologist to investigate mice RNA genomic sequences
- Used R statistical analyse to determine if a particular gene is associated with heart failure

PROJECTS

DESeq genomic analysis | *SQL, R*

June 2019 – May 2020

- Developed a statistical analysis of mouse RNA sequences using R and SQL
- Manipulated BAM files to find read counts of genes, then applied a differential gene expression modeling technique to analyze prominent gene expression
- Visualized analysis data to find an association between certain genes and heart failure

High School Coding portfolio | *Java/Processing, HTML, CSS, Javascript, Git*

May 2018 – May 2020

- Developed a river animation using Processing that can be viewed in 2D or 3D using Processing VR features
- Created visual Processing projects such as a fractals program, partical animations, and simple games
- Performed an R analysis on infant mortality rates from UNICEF involving statistics graphing and Python hypothesis testing

Los Angeles Surf Spots Website | *HTML, CSS, Javascript, Google Maps API*

November 2019

- Developed a website that displays Los Angeles's daily surf forecast, a brief intro of the surf spot, and nearby cafes that are perfect for a post-surf coffee and breakfast
- Used a Google Maps API to display the surf spots on a Google Maps interface

TECHNICAL SKILLS

Languages: Java, Processing, Python, JavaScript, HTML/CSS, R, SQL

Frameworks: JUnit

Developer Tools: Git, Google Maps API, Visual Studio, IntelliJ, Atom

Libraries: pandas, NumPy

COURSEWORK

Computer Science: CS 61A: Structure and Interpretation of Computer Programs, CS 61B: Data Structures

Data Science: Data 8: The Foundations of Data Science

Electrical Engineering: EECS 16A: Designing Information Devices and Systems I, EECS16B: Designing Information Devices and Systems I

AWARDS

Computer Science Book Award: Marlborough High School Book Award for Computer Science Excellence

PAPERS

The Effect of Myh14 On Cardiac Hypertrophy in Mice - 2020: Using R to compute differential gene expression to determine the influence of certain genes on cardiac hypertrophy