# DANIEL LI

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#### **EDUCATION**

# UNIVERSITY OF CALIFORNIA, BERKELEY

Aug 2014 – 2017

### B.S. Electrical Engineering and Computer Sciences

Berkeley, CA

- *Academics*: 3.5 cumulative GPA
- Coursework: Computer Science: Structures and Interpretations of Programs (SICP), Data Structures and Algorithms, Computer Architectures, Human Computer Interaction | Mathematics: Integral, Differential, Vector, Multivariable, Lambda Calculi, (Partial) Differential Equations, Linear Algebra, Discrete Mathematics, Probability Theory | Electrical Engineering & Physics: Mechanics, Electricity, Magnetism, Designing Information Devices and Systems I,II
- *Skills*: Python, Java, C, SQLite, Lisp Scheme, HTML, LaTeX, R, MIPS, Assembly, Data Analysis, Digital Signal Processing (DSP), Android Studio app development

# LA CANADA HIGH SCHOOL

Fall 2011 - 2014

- *Academics:* 4.7/4.0 weighted GPA, 4.0/4.0 GPA, 2310 SAT
- Graduated in 3 years, ranked 2<sup>nd</sup> out of 400

# RESEARCH EXPERIENCE

**Pachter Group** 

Fall 2015 – Present

### **Computational Biology (Mathematics and Genomics)**

Berkeley, CA

- Research in novel approaches to RNA-sequencing with the features in abundance estimation, transcript annotation difficulties, differential expression
- Current investigation on the improvement of bulk cell and single cell RNA-seq analysis

#### **PROJECTS**

# SLEUTH - R (Pachter Group)

- Implement statistical algorithms for differential analysis for pseudo-alignment of RNA transcripts with interactive plots for real-time exploratory analysis
- Visualization of bias weights of RNA through integration of bias weights and hexamer indices

# **KALLISTO – C++ (Pachter Group)**

- Novel approach decreasing analysis time of 30 million human reads in less than 3 minutes
- Optimization of statistical likelihood model through non uniform distribution analysis for more accurate projections onto correct subspaces

### GITLET - Java

- Implemented and designed a version control system similar to Git with ADT's to maximize runtime
- Fully functioning Git suite (merge, rebase, commit, etc)

### **AUTOCOMPLETE – Java**

- Implemented a word searching program similar to Android and iPhone autocomplete suggestion
- Designed a Ternary Search Trie ADT to optimize run times for searching vast dictionaries

### **AWARDS AND HONORS**

MIT THINK

Spring 2014

### Designed a Novel Approach to Mitigate Earthquakes

Cambridge, MA

Awarded \$2,000
Created a prototype with Arduino sensors, fiberglass fabrication, and coding in C#

#### **VOLUNTEER EXPERIENCE**

### OAKLAND SERVES

Mentor

Aug 2015-Present

Berkeley, CA

- Tutor and Mentor a student in STEM subject fields that is at risk of dropping out
- Volunteered in new pilot initiative to curb dropout rates