

JONATHAN KING

Education

University of California, Berkeley

B.A. Computer Science, B.S. Bioengineering *Expected May 2017*
3.47 Cumulative GPA

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Skills and Coursework

- Python, Bash, C, Java, SQL, Spark, R
- Algorithms for Computational Biology
- Operating Systems, Data Structures, Database Theory, Networking
- Discrete Math, Probability Theory, Linear Algebra
- Biophysical Chemistry
- Molecular Biology

Software Development Experience

Bioinformatics Intern

May 2015 - Present

Plexxikon Inc., Berkeley CA *(contracted through Lab Support)*

- Developed novel algorithms to detect structural variants in patients with acute myeloid leukemia (AML), publication pending.
- Improved specificity and reporting methods of algorithms to compete with existing software.
- Utilized Illumina's BaseSpace cloud computing platform to run application remotely with Amazon Web Services.
- Engineered scripts for parallel analysis of other biological experiments using Next Generation Sequencing data.

High-Frequency Bitcoin Trading Application

Manages user balance by intelligently buying and selling Bitcoin currency on several markets.

- Implemented web scraping methods for determining market sentiment via Google News and Twitter feeds.

Pintos Operating System Development

Added modern OS features to toy operating system kernel for instructional purposes.

- Collaborated in a group of 4 to implement multi-threading, extensible file system, system call handling, and other features.

"Finals Finder" Computer Application

Calculates term grades, test scores, cutoffs for high school students.

- Adopted by high school - now included on all school computers.
- Presented with school award for "Outstanding Achievement in Technology and Media Arts".

Other Notable Projects:

- Python implementation of TCP-like transport protocol and firewall.
- Distributed, resilient key-value storage with 2 Phase Locking.
- Degrees of Separation and Page Rank implementations in SQL.
- PySpark implementation of K-means clustering.

Laboratory Experience

Research Assistant, Zilberman Lab

Apr 2014 - Sep 2014

University of California, Berkeley

- Studied epigenetic role of DNA methylation in the Arabidopsis plant.
- Screened 200+ plants for genetic mutations through PCR / gel electrophoresis.
- Performed computational analysis of next-gen sequencing data for traits in 5 genes.

Other Work Experience

Tutor – Computer Science, Math, Chemistry, Physics

Dec 2014 - Present

InstaEdu.com, Online Tutoring Service

- Coached over 30 high school and college students in STEM curriculum.
- Developed weekly lesson plans for video conferencing students.

"Tech Camp" Assistant

Jun 2011 - Aug 2012

Moreau Catholic High School, Hayward, CA

- Facilitated summer class at my high school for over 100 incoming students each year.
- Directed educational presentations throughout the course.

Leadership and Activities

Berkeley Biomedical Engineering Society

2013 - Present

- Collaborated with Academic committee to plan monthly events for the Bioengineering community.
- Organized and participated in research fair, professor socials, career exploration.

Senior Class President

2011 - 2012

- Coordinated Spirit Week, school rallies, activities, and event planning for the Senior Ball dance for 300 guests.
- Strengthened student involvement in planning and execution of events.

Awards and Recognition

- 3 "Silver Key" Scholastic Art Awards for Photography
- "Best Picture" Award Wikimedia National Photo Competition
- AP Scholar with Distinction
- California Scholarship Federation Life Member