JONATHAN KING

address   31052 Faircliff St.
Hayward, CA 94544
tel   510.856.7311
email jonathanking@berkeley.edu
web   jonathanking.github.io

Education

University of California, Berkeley
B.A. Computer Science, B.S. Bioengineering   *Expected May 2017*
3.47 Cumulative GPA

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 implementations 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