CLAYTON SANFORD

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EDUCATION

Brown University, Applied Mathematics-Computer Science, GPA: 3.93 Sep 2014 - May 2018
Relevant Coursework: Abstract Algebra; Linear Algebra; Software Engineering; Discrete Structures and Probability; Differential Equations; Introduction to CS; Models of Computation; Chaotic Dynamics; Analysis: Functions of One Variable; Probability; Algorithms; Dynamics Independent Study; Information Theory
Soquel High School, Soquel, CA Sep 2010 - Jun 2014
Awards: Valedictorian, National AP Scholar, Departmental Honors in Science and Social Sciences

SKILLS

Programming Languages: Java, Python, Javascript, PHP, Scala, Matlab, C++
Tools: HTML, CSS, Bootstrap, Laravel, MySQL, Git, Spark, Hadoop
Languages: English (native), Spanish (intermediate)

WORK EXPERIENCE

Brown University Department of Molecular Biology, Undergraduate Researcher Jun 2016 - Aug 2016
- Developed Spliceman 2, web-based software that assesses the likelihood of a mutation affecting RNA splicing
- Designed backend pipeline for processing genomic files and improved user interface for larger jobs
- Wrote and edited sections of a paper to be submitted to the *Bioinformatics* academic journal

UC Santa Cruz Bioinformatics, Software Engineering Intern Jun 2013 - Aug 2013, May 2015 - Aug 2015
- Developed software that migrates genomic files from static storage to a distributed format on virtual machines
- Used Scala to add functionality to upload to S3, allow for more input forms, and create unit and integration tests
- Performed statistical analyses using Python and the UCSC Cancer Genomics Browser

Brown University, Undergraduate Teaching Assistant Sep 2015 - Present
- Assisted with Accelerated Introduction to Computer Science, Discrete Structures and Probability, and Theory of Computation
- Tutored students during office hours, graded coursework, wrote new problems for assignments, and taught material during study sessions

AWARDS

COMAP Interdisciplinary Contest in Modeling, Outstanding Winner Feb 2016
- Selected as one of the top five papers of over 3000 submissions
- Designed a mathematical model for water scarcity in India, and applied the model to real-world data using Matlab
- Published a twenty page paper discussing our model and methods of addressing water scarcity in the *Undergraduate Mathematics and its Applications* journal

Boy Scouts of America, Eagle Scout Aug 2013

LEADERSHIP EXPERIENCE

Applied Math Department of Undergraduates, Secretary, Treasurer Jan 2015 - Present
- Planned and ran events for applied math concentrators including math contests, professor lectures, and information sessions for potential concentrators

Brown Outing Club, President Nov 2014 - Present
- Organized transportation, obtained supplies, coordinated participants, and planned routes for outdoor trips
- Managed club logistics and a budget of $27,000, oversaw leader training, and recruited new board members
- Planned large-scale day trips for over 40 people, which involved significant logistical planning and delegation

Swearer Tutoring and Enrichment in Math and Sciences, Volunteer Representative Jan 2015 - May 2016
- Helped students for students behind on work after school, assisted teachers in teaching material and working with students on assignments, mentored other tutors, and planned training meetings for tutors