Viraj Mahesh

virajmahesh@berkeley.edu | +1 510-646-5944

EDUCATION

UNIVERSITY OF CALIFORNIA BERKELEY

Expected: May 2017
B.S in Electrical Engineering and Computer Science
Dean's List (All Semesters)
Cum. GPA: 4.0 / 4.0

DELHI PRIVATE SCHOOL DUBAI

SAT I: 2290 SAT II: 800 PHY / 800 MATH II / 800 CHEM

LINKS

Github: github.com/virajmahesh
LinkedIn: linkedin.com/in/virajmahesh

COURSEWORK

Structure and Interpretations of Computer Programs **(CS61A - Python)** • Data Structures **(CS61B - Java)** • Calculus **(MATH 1A & 1B)** • Mechanics and Wave Motion **(PHYSICS 7A)**
Intended: Machine Structures **(CS61C)**, Multivariable Calculus **(MATH 53)**, Linear Algebra and Differential Equations **(MATH 54)**

SKILLS

Proficient
Java • C++ • Python • JavaScript
Strongly familiar with
MATLAB • R • Android • CSS • HTML
Prior Experience
PHP • SQL • Git • Shell

AWARDS

Dean's Honor List: Requirements include completing 12 or more letter-graded units in that semester; a semester and overall GPA in the top 10% of all College of Engineering undergraduates.
Kraft Award for Freshmen: Attain a 4.0 GPA at the end of your first (fall) semester at UC Berkeley. Honors to Date

EXPERIENCE

BERKELEY LABORATORY FOR AUTOMATION | UNDERGRADUATE RESEARCHER
January 2014 – Present | Berkeley, CA
Research Mentor: Professor Kenneth Goldberg
Worked on improving Eigentaste, a constant time collaborative filtering algorithm. Used optimization techniques to explore reduction of gauge set size. Learnt data-analysis techniques such as inlier removal and out of sample error testing. Modified Eigentaste to use *k-means* clustering in order to perform clustering in higher dimensions.

SNAP DEVELOPMENT | EXTENSIONS DEVELOPER
February 2014 – Present | Berkeley, CA
Developed JavaScript extensions for Snap, a graphical programming language developed at UC Berkeley. Developed a GUI extension that allows users to take screenshots and export them as PNG files. Extended Snap in order to automatically rename costumes to prevent naming conflicts. Used Git and GitHub in order to track project changes and integrate changes into the main project.

CS61A COURSE STAFF | LAB ASSISTANT
February 2014 – May 2014 | Berkeley, CA
Assisted students with projects, lab work and homework. Helped explain key concepts such as recursion and operations on data structures such as traversal, reversal, merging, etc. Helped students understand debugging techniques. Explained good coding practices and code organization techniques.

PERSONAL PROJECTS

PERSONAL WEBSITE | 2014
Created a personal portfolio using HTML, CSS and JavaScript + jQuery. Created the design from scratch, without the use of any frontend libraries. Used jQuery and JavaScript to add UI effects such as animation and transition. Created a contact form to allow visitors to email me without revealing my email address using a backend written in node.js and hosted on heroku.

FALLING BALLS | 2013
2D Android game built using the Android SDK. Implemented Java libraries to handle game physics, collision detection and response. Used the AdMob SDK to display in-game advertisements. Used an SQLite Database to store high scores locally.

3D POOL | 2013
Created a 3D pool simulation table using OpenGL and C++. Added sound and 3D texturing to make the game more realistic. Implemented C++ libraries to handle rigid body simulation, collision detection and impulse based collision response. Used the glut wrapper for OpenGL to render 3D objects with lighting effects to improve realism.

2D BASKETBALL | 2012
Created a 2D Basketball simulation using OpenGL and C++. Added sound and texturing to make the game more realistic. Implemented C++ libraries to handle physics simulation, collision detection and event handling. Used PHP and MySQL to create an online database to handle player login, registration and high score submission.

MINESWEEPER | 2012
Created an improved version of Minesweeper using C++ and OpenGL. Used 2D textures to make the game more realistic. Created an interface that allows users to choose board size and mine density in order to make gameplay more interesting and challenging.