Vibhor Kumar

MSC #623 vibhor@caltech.edu
Pasadena, CA 91126-0623 (513) 293-1138

Education

California Institute of Technology, *Computer Science* *Graduating Class of 2016*

- Computer Graphics (CS 171) and GPU Programming (CS 179), Data Structures and Algorithms (CS 38), Decidability and Tractability (CS 21), Introductory Machine Learning (self-study), Research for Credit (CS 81), Computer Graphics Projects (CS 174)
- Differential Equations (Ma2a), Multivariable Calculus (Ma1c), Linear Algebra (Ma1b), Probability and Statistics (Ma2b)

Work and Experience

Samsung Mobile R&D, *Testing Automation Developer* *July - September 2013*

- Developing testing suites for enterprise security applications and their derivatives by working with Android testing tools and bash/python scripting for full automation.
- Directly involved in the development process as well by creating and optimizing apps that provide a UI interface to testing suites.
- Working alongside my team by handling automation and development, as well as creating test cases for various parts of the overall testing suite.

ChoiceFork, *Researcher* *May 2013 - Present*

- Building up from scratch the logistics of improving decision making on the internet. Will eventually shift to a development role as the methodology becomes clear.

Vora Labs, *Testing and Software Development* *Summer 2012*

- Created unit tests with JUnit for all parts of the development on the backend, while additionally developing various backend and frontend tasks as needed.
- Worked on API implementations for efficient product and search recommendations.

Computer Science Student Faculty Committee (CSSFC), *Student Rep* *2012-2013 (Present)*

- Working with other representatives and the CS faculty to respond to the change in core classes for next year and institute new, revised CS degree requirements.

Selected Projects

Edge-Preserving Linear-Time Smoothing Optimization, *CS174 Research* *March 2013 - June 2013*

- Optimizing an edge-preserving linear-time smoothing filter algorithm (Gastal, Oliviera; SIGGRAPH 2011), and implementing both a CPU and GPU version with novel improvements.

Automated Inbetweening between Noisy Keyframes, *CS81 Research* *Dec. 2012 - March 2013*

- Using ideas from both Computer Graphics and Applied Math to develop a generalized method that solves the research problem and is faithful to the artist's intent.

Beal's Conjecture and Distributed Computing *Spring 2012 - Present*

- Developing a parallelizable algorithm for efficiently checking larger values for the variables in Beal's Conjecture, an unsolved generalization of Fermat's Last Theorem.

Skills and Awards

- **Skills:** Java (Eclipse, NetBeans, IntelliJ), C/C++ (Visual Studio), Python (IDLE, Pyscripter), Android, R, Octave, Mathematica, Bash Scripting, LaTeX(Gummi), ANTLR, OpenGL and JOGL, GLSL, CUDA, Sublime Text, Notepad++, Emacs, Gedit, SVN and RabbitVCS, Git and Github (**github.com/veezbo**)
- **Awards:** Marion Gene Vincenti Scholarship (Caltech Scholarship, *Spring 2013*), Frances and Howard Vesper Scholarship (Caltech Scholarship, *Spring 2013*), 1st place Google Games Coding Competition (*Spring 2013*), 11th Place Regional ACM Collegiate Programming Contest (*Winter 2012*), Association for Computing Machinery Membership, (*Spring 2013*), Top 5 in Silver Division on USA Computing Olympiad US Open Contest (*Spring 2012*), Honda-OSU Math Medal (*Spring 2012*), 1st Place American Computer Science League Contest (*Spring 2012*).