Ritwik Dutta

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Objective

To use and develop my computer science skills in an environment that challenges me and facilitates further learning.

Education

Archbishop Mitty High School	2012 - 2016
Stratford Middle School	2009 - 2012
Millikin Elementary School	2003 - 2009

Skills

Programming — *Python, C/C++,Java, Linux CLI*
5 years of experience with data structures, algorithms, and simple tools (*e.g.*, sorting, trees, linked lists)

Web Development — *HTML, CSS, JavaScript*
3 years of experience with creating websites either from scratch or using various online technologies and frameworks (*e.g.*, HTML5, CSS3, jQuery, Bootstrap, WordPress)

Graphics — *Adobe PhotoShop, Inkscape*
3 years of experience in creating images or logos for various projects

Video/Audio Editing — *Adobe After Effects, Audacity*
3 years of experience in creating short films, gaming videos , and background audio

IDEs/VC — *Eclipse, IntelliJ, Git*
4 years of experience in writing code, managing files, and general project for various programming applications and projects

Editors — *Vim, SublimeText, Geany*
3 years of experience in writing code for various programming applications and projects

Office Suites — *Microsoft Office, LibreOffice*
9 years of experience in creating documents, spreadsheets, and presentations

Teams

Computer Science Club *10th Grade*
Worked with peers on solutions to previous Stanford ProCo problems and taught others about topics in computer science

Robotics *10th Grade*
Worked with peers on the 2014 FRC competition Aerial Ascent to design and program an autonomous and teleoperated robot

Robotics *9th Grade*
Worked with peers on the 2013 FRC competition Ultimate Ascent to design and program an autonomous and teleoperated robot and represented school at Sacramento Valley Regional competition

Science *8th Grade*
Represented school in the National US Department of Energy Science Bowl as physics and math question specialist

Math *7th Grade*
Represented school in the MathCounts Chapter Competition as individual participant

Projects

Reverse Polish Calculator *Personal - Spring 2014*
Writing a simple command line calculator using Python to parse and interpret mathematical expressions written using reverse Polish notation while providing visualizations of the stack at each step of the interpretation (rpn-calc)

Password Manager *Personal - Spring 2014*
Writing a GUI-based password manager in pure Python using 128-bit AES encryption and 256-bit password encryption with a WxWidgets frontend (SecureWallet)

Robotics Camp Mentor *School- Summer 2013*
Helping younger children (from 4th to 8th grade) with creating simple robots and teaching them simple engineering concepts

Webcam Security System *Personal - Spring 2013*
Using the OpenCV graphics computing library to create a barebones security system that detects when a door is opened and emails a picture of the intruder to a specified address

Display Latency Testing *NVIDIA - Summer 2012*
Using photoelectric sensors and HDMI signal equipment to test response time on various LCD TVs in various display modes (cinema mode, vivid mode, and gaming mode)

Educational Shooter *Personal - Fall 2011*
A prototype for a shooter game based on seamlessly blending fluid gameplay with educational questions so that people would learn as they enjoyed playing a game that was presented in stereoscopic 3D

3D Anaglyph Generation *School - Fall 2010*
Shooting 2D images at varying horizontal separations, combining them into 3D anaglyphs, and using the ITU.BT 500 image quality scale to deduce the optimal distance (2.5") for human viewing (report PDF)

Simple 3D Pong *School - Fall 2006*
A simplified version of the Atari classic 'Pong' recreated in 3D using Python and the VPython backend for 3D rendering

Achievements

HPI 2014 (Top 25%)

Extracurricular

Blogging
Reading
Music
Movies
Video Games
Guitar
Biking
Swimming