Lennart Rudolph lrudolph@hmc.edu

Education

Harvey Mudd College, Claremont, CA
Bachelor of Science, Physics, Concentration in Physics with Computers, Expected May 2016

Experience

Grader HMC Physics Department, Claremont, CA — January 2014-May 2014

Graded homework for a section of Mechanics & Wave Motion (PHYS 024).

Research Student HMC Physics Department, Claremont, CA — January 2014-May 2014

Assisted in the development of a `SolidWorks` model of a vacuum chamber for an ion trapping experiment. Worked with code for magnetic field simulations involving the `Radia` software package for `Mathematica`.

Tutor HMC Homework Hotline, Claremont, CA — September 2012-May 2013

Tutored student callers in mathematics and science from the elementary school level to the AP level. AP courses tutored include AP Physics, AP Calculus BC, AP Statistics, and AP Chemistry.

Skills

Computer Skills and Coursework .....
Principles of Computer Science, Introduction to Computer Science, Python, Java, Racket, Prolog, LaTeX, Mathematica, Maple, Matlab, IGOR Pro, SolidWorks. (Spring 2015: data structures course.)

Physics Coursework .....
Theoretical Mechanics, Statistical Mechanics & Thermodynamics, Quantum Physics, Electromagnetic Theory and Optics, Mechanics & Wave Motion, Gravitation, Special Relativity, Fundamentals of Mechanics, and Research in Physics.

Mathematics Coursework .....
Fourier Series & Boundary Value Problems, Discrete Mathematics, Intermediate Probability, Differential Equations and Linear Algebra II, Multivariable Calculus, Probability and Statistics, Intro to Differential Equations, Intro to Linear Algebra, Calculus, and Putnam Seminar.

Labs and Miscellaneous Coursework .....
Electronics Lab (Logic Gates, Op Amps, Diodes, Oscilloscopes, etc), Modern Physics Lab, Physics Lab, Chemistry Lab, Intro to Engineering Systems, Logic, and Financial Economics

Languages .....
English, German, and Spanish (in order of proficiency)

Projects

Fall 2014 5C Hackathon
Using basic `HTML`, `JavaScript`, and the `CodeCogs API`, my team member and I started a website that allows a user to input a LaTeX formatted Lagrangian from physics. The site then parses their input and generates a series of useful commands in `Mathematica` syntax. The project can be found at my `GitHub`: `https://github.com/lrudolph1`. This is still a work in progress.