Lennart Rudolph

Contact Information

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https://github.com/lrudolph1
https://lrudolph1.github.io/

Education

Harvey Mudd College, Claremont, CA — **Expected Graduation: May 2016**
B.S. Physics
Concentration in Physics with Computers

Work Experience

Software Engineering Intern (BigNerve) — **May 2015 - present**
I work on the backend API for BigNerve's DailyNerve website which is primarily written in Google's Go programming language. I have been working on integrating PayPal Express Checkout with the existing codebase by writing my own RESTful implementation.

Assistant to System Administrator (HMC) — **May 2015 - Aug. 2015**
I assisted the engineering department's system administrator. I created new disk images for over sixty engineering department computers and I installed solid state drives into these machines. I occasionally assisted the college's Computer Information Services department with help-desk support tickets. Furthermore, I wrote and edited batch scripts to optimize tasks.

Physics Grader (HMC) — **Jan. 2014 - May 2014**
I graded homework for a section of Mechanics & Wave Motion.

Homework Hotline Tutor (HMC) — **Sept. 2013 - May 2013**
I tutored student callers in mathematics and science from the elementary school level to the AP level. I tutored AP Physics, AP Calculus BC, AP Statistics, and AP Chemistry.

Project Experience

Wormhole Simulation (HMC) — **Apr. 2015 - May 2015**
As part of a computational methods in physics class, my two team members and I used concepts from general relativity to implement a ray-traced interpolation map for the light from a wormhole. This was implemented in Mathematica. (See my GitHub for the code and examples.)

Research Experience

Physics Research Student — **Jan. 2014 - May 2014**
I assisted in the development of a SolidWorks model of a vacuum chamber for an ion trapping experiment. I worked with code for magnetic field simulations using Radia for Mathematica.

Relevant Courses

Computer Science: High-Performance Computing (in progress), Data Structures and Program Development, Computability and Logic (in progress), Principles of Computer Science, Introduction to Computer Science

Physics: Computational Methods in Physics, General Relativity & Cosmology, Electromagnetic Fields (in progress), Quantum Mechanics, Theoretical Mechanics, Statistical Mechanics & Thermodynamics, Quantum Physics, Electromagnetic Theory & Optics, Mechanics & Wave Motion, Gravitation, Special Relativity, Optics Lab, Electronics Lab, Modern Physics Lab, Physics Lab

Mathematics: 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, Putnam Seminar.

Skills

Proficient in: `C++`, Mathematica, LaTeX
Exposure to: Go, Java, Racket, `C`, Python, Prolog, GNU make, git, subversion, `MATLAB`, SolidWorks
Languages: English, German