Lennart Rudolph

CONTACT INFORMATION	340 E Foothill Boulevard Claremont, CA 91711 (714) 805-2993	lrudolph@hmc.edu 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

RELEVANT COURSES

Computer Science: Data Structures and Program Development, High-Performance Computing (in progress), Computability and Logic (in progress)
Physics: Computational Methods in Physics, Statistical Mechanics & Thermodynamics
Mathematics: Discrete Mathematics, Intermediate Probability, Differential Equations and Linear Algebra II, Fourier Series & Boundary Value Problems

SKILLS

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

WORK EXPERIENCE

Software Engineering Intern (BigNerve)   **May 2015 - present**
- Work on the backend API for BigNerve's DailyNerve website
- Integrating PayPal Express Checkout with the existing codebase by writing my own RESTful implementation in Google's Go programming language

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

PROJECT EXPERIENCE

Atomistic Simulations of White Dwarf Dynamics (LLNL)   **Sept. 2015 - May 2016**
- Member of a joint computer science-physics clinic team working on a white dwarf project for the Lawrence Livermore National Laboratory's High Performance Computing Innovation Center
- Run simulations on the Blue Gene Q supercomputer

Wormhole Simulation (HMC)   **Apr. 2015 - May 2015**
- Used concepts from general relativity to implement a ray-traced interpolation map for the light from a wormhole in Mathematica (See my GitHub for the code and examples)

OTHER EXPERIENCE

Physics Research Student   **Jan. 2014 - May 2014**
- Developed a SolidWorks model of a vacuum chamber for an ion trapping experiment
- Worked with Radia for Mathematica to simulate magnetic fields in the chamber

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

Homework Hotline Tutor (HMC)   **Sept. 2012 - May 2013**
- Tutored student callers in mathematics and science from the elementary school level to the AP level
- Tutored up to AP Physics, AP Calculus BC, AP Statistics, and AP Chemistry.

OTHER COURSES

Computer Science: Principles of Computer Science, Introduction to Computer Science
Physics: General Relativity & Cosmology, Electromagnetic Fields (in progress), Quantum Mechanics, Theoretical Mechanics, Quantum Physics, Electromagnetic Theory & Optics, Mechanics & Wave Motion, Gravitation, Special Relativity, Optics Lab, Electronics Lab, Modern Physics Lab, Physics Lab
Mathematics: Multivariable Calculus, Probability and Statistics, Intro to Differential Equations, Intro to Linear Algebra, Calculus, Putnam Seminar.