

Lennart Rudolph

CONTACT
INFORMATION

<https://lrudolph1.github.io/>

EDUCATION **Georgia Institute of Technology**, Atlanta, GA

Expected 2019

M.S. Computer Science

Harvey Mudd College, Claremont, CA

Sept. 2012 - May 2016

B.S. Physics

- Concentration in Physics with Computers
- Senior Capstone: *Atomistic Simulations of White Dwarf Dynamics*

RELEVANT
COURSEWORK
(CLICK FOR
DESCRIPTIONS)

Computer Science: Artificial Intelligence for Robotics¹, Software Development Process (in progress)¹, Computational Photography¹, Algorithms, Data Structures and Program Development, High-Performance Computing, Computability and Logic, Compilers and Languages, Operating System Concepts, Software Engineering

Physics: Computational Methods in Physics, Statistical Mechanics & Thermodynamics

Mathematics: Discrete Mathematics, Intermediate Probability, Differential Equations & Linear Algebra II, Fourier Series & Boundary Value Problems, Single & Multivariable Calculus, and Probability & Statistics

SKILLS

Most experience: Go, Python, Google App Engine

Some experience: C++, C, git, Docker, Kubernetes, Google Container Engine, Google Cloud Datastore, NumPy, OpenCV, L^AT_EX, Java, Mathematica

Exposure to: Google Cloud Pub/Sub, Google Cloud SQL, Prolog, Racket/Scheme, subversion, GNU make, CUDA, MPI, OpenMP, MATLAB, SolidWorks

PROJECT
EXPERIENCE

Atomistic Simulations of White Dwarf Dynamics (LLNL)

Sept. 2015 - May 2016

- Worked on a white dwarf project for the Lawrence Livermore National Laboratory's (LLNL) High Performance Computing Innovation Center as a member of a joint computer science-physics clinic team
- Ran molecular dynamics simulations on the Vulcan Blue Gene Q supercomputer using LLNL's dynamic domain decomposition multi-physics particle dynamics code (ddcMD)

Wormhole Simulation (HMC)

Apr. 2015 - May 2015

- Used Mathematica and concepts from general relativity to implement a ray-traced interpolation map for the light from a wormhole (see my [GitHub](#) for the code and examples)

WORK
EXPERIENCE

API Developer (BigNerve)

May 2016 - present

- I write and maintain Golang code for BigNerve's DailyNerve backend web API which is built on the Google Cloud Platform. I train new team members and lead the development of new DailyNerve API features.

API Developer Intern (BigNerve)

May 2015 - Dec. 2015

- I worked on the backend web API for BigNerve's DailyNerve website as a part-time intern and focused on integrating PayPal Express Checkout with the existing codebase by beginning my own implementation in Go

Assistant to System Administrator (HMC)

May 2015 - Aug. 2015

- Created new disk images for over sixty engineering department computers and installed solid state drives into these machines; wrote and edited batch scripts to optimize tasks
- Occasionally assisted the college's Computer Information Services department with help-desk support tickets

OTHER
EXPERIENCE

Physics Research Student

Jan. 2014 - May 2014

- Used SolidWorks and Mathematica to model and simulate magnetic fields in a vacuum 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

OTHER
COURSEWORK
(CLICK FOR
DESCRIPTIONS)

Physics: General Relativity & Cosmology, Electromagnetic Fields, Quantum Mechanics, Theoretical Mechanics, Quantum Physics, Electromagnetic Theory & Optics, Mechanics & Wave Motion, Gravitation, Special Relativity, Optics Lab, Electronics Lab, Modern Physics Lab, Physics Lab

¹Graduate-Level Course