Lennart Rudolph

https://github.com/lennrt

Contact Information

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https://lennrt.github.io

Education

Georgia Institute of Technology, Atlanta, GA — **Jan. 2017 - 2019 (expected)**
M.S. Computer Science (in progress)

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 (LLNL)*

Relevant Coursework

Computer Science: Artificial Intelligence for Robotics[1], Software Development Process[1], Human-Computer Interaction (in progress)[1], Introduction to Health Informatics (in progress)[1], Computational Photography[1], 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
Some experience: git, MySQL (Google Cloud SQL), Google Cloud Datastore (NoSQL), Google App Engine, `C++`, `C`, NumPy, OpenCV, LaTeX, Java, Mathematica, Docker, Linux, batch, bash
Exposure to: GCP Cloud Functions, GCP Pub/Sub, Prolog, Racket/Scheme, subversion, GNU make, CUDA, MPI, OpenMP, `MATLAB`, SolidWorks, Kubernetes, Google Container Engine, JavaScript

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, concepts from general relativity, and an approach by Kip Thorne et al. 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 (DailyNerve) — **May 2016 - present**
- I write and maintain Golang code for BigNerve's DailyNerve back-end web API. I train new back-end team members and lead the development of new DailyNerve API features.

API Developer Intern (DailyNerve) — **May 2015 - Dec. 2015**
- Integrated PayPal Express Checkout and other features into DailyNerve's back-end web API

Assistant to System Administrator (HMC) — **May 2015 - Aug. 2015**
- Created new disk images for engineering department computers; performed hardware upgrades; assisted with help-desk support tickets; wrote batch scripts to optimize tasks; used and maintained 3-D printer

Other Experience

Physics Research Student (HMC) — **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

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

[1] Graduate-Level Course