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

Skills

Most Experience: Go, Python • **Some Experience:** NumPy, pandas, R, OpenCV, git, MySQL, LaTeX, Google Cloud Datastore (NoSQL), Google App Engine, `C++`, `C`, Java, Mathematica, Docker, Linux, batch, bash • **Exposure to:** Prolog, Racket/Scheme, subversion, GNU make, CUDA, MPI, OpenMP, `MATLAB`, SolidWorks, Kubernetes, Google Container Engine, JavaScript, HAPI FHIR

Project Experience

Clinical Decision Support Application (CDC) — **Jan. 2018 - Apr. 2018**
- Developed a clinical decision support application for the Centers for Disease Control and Prevention (CDC) to support healthcare providers with the diagnosis and management of mTBI in pediatric patients. Our team leveraged FHIR, an existing CDS API, and human-computer interaction principles.

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. I rearchitected and reimplemented the entire API as a platform-agnostic, containerized, microservice-based system in order to increase flexibility.

API Developer Intern (DailyNerve) — **May 2015 - Aug. 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

Relevant Coursework

Computer Science: Machine Learning for Trading[1] (in progress), Knowledge-Based Artificial Intelligence: Cognitive Systems[1] (in progress), Artificial Intelligence for Robotics[1], Data & Visual Analytics [1], Software Development Process[1], Human-Computer Interaction[1], Introduction to Health Informatics[1], Computational Photography[1], Algorithms, Data Structures and Program Development, High-Performance Computing, Computability and Logic, Compilers and Languages, Operating System Concepts, Software Engineering
Mathematics: Discrete Mathematics, Intermediate Probability, Differential Equations & Linear Algebra II, Fourier Series & Boundary Value Problems, Single & Multivariable Calculus, and Probability & Statistics
Physics: Computational Methods in Physics, Statistical Mechanics & Thermodynamics, General Relativity & Cosmology, Electromagnetic Fields, Quantum Mechanics, Theoretical Mechanics

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

[1] Denotes Graduate-Level Course