

CONTACT INFORMATION	lrudolph (AT) hmc (DOT) edu	<a href="https://lennart.page">https://lennart.page</a>
EDUCATION	<b>Georgia Institute of Technology</b> , Atlanta, GA <i>M.S. Computer Science</i> <b>Harvey Mudd College</b> , Claremont, CA <i>B.S. Physics</i> <ul style="list-style-type: none"> <li>• Major Concentration in Physics with Computers</li> <li>• Senior Capstone: <i>Atomistic Simulations of White Dwarf Dynamics (LLNL)</i></li> </ul>	<b>Jan. 2017 - May 2019</b> <b>Sept. 2012 - May 2016</b>
SKILLS	<p><b>Programming:</b> Go<sup>1</sup>, Python<sup>1</sup>, SQL<sup>1</sup>, R, Java, C/C++, L<sup>A</sup>T<sub>E</sub>X, Mathematica, bash<sup>1</sup></p> <p><b>Frameworks/Platforms/Tools:</b> NumPy, Pandas, OpenCV<sup>2</sup>, Scikit-learn<sup>2</sup>, SciPy<sup>2</sup>, git<sup>1</sup>/svn, Docker, Kubernetes<sup>2</sup>, HAPI FHIR<sup>2</sup>, Elasticsearch, Google Cloud Platform (Cloud SQL, NoSQL Datastore, App Engine, Cron, Cloud Functions), Amazon Web Services<sup>1</sup> (CodePipeline deployments, EC2, RDS, S3, Lambda)</p> <p><b>Miscellaneous:</b> Software Engineering/Testing/Documentation Practices, API Development, Back-End Web Microservices, Containerization, Data Analysis, Machine Learning, Early-stage Start-ups</p>	
PROJECT EXPERIENCE	<p><b>Clinical Decision Support Application (CDC)</b> <b>Jan. 2018 - Apr. 2018</b> Our team developed a clinical decision support app for the CDC to support healthcare providers with the diagnosis and management of mTBI in pediatric patients. We leveraged [HAPI FHIR] and a CDS API.</p> <p><b>Atomistic Simulations of White Dwarf Dynamics (LLNL)</b> <b>Sept. 2015 - May 2016</b> 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). [C, bash]</p> <p><b>Wormhole Simulation (HMC)</b> <b>Apr. 2015 - May 2015</b> 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 GitHub)</p>	
WORK EXPERIENCE	<p><b>Back-End Developer (DailyNerve)</b> <b>May 2016 - present</b> I write and maintain code, tests, and documentation for BigNerve's DailyNerve back-end web API. I train new back-end team members and lead the development of new API features. I rearchitected and reimplemented the entire API as a platform-agnostic, containerized, microservice-based system. [Golang, SQL, bash, AWS, Google Cloud Platform, Elasticsearch, Docker]</p> <p><b>Back-End Developer Intern (DailyNerve)</b> <b>May 2015 - Aug. 2015</b> I integrated PayPal Express Checkout and other features into DailyNerve's back-end web API. [Go, SQL]</p> <p><b>Assistant to System Administrator (HMC)</b> <b>May 2015 - Aug. 2015</b> 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</p> <p><b>Physics Research Student &amp; Physics Grader (HMC)</b> <b>Jan. 2014 - May 2014</b> Used [SolidWorks] and [Mathematica] to model and simulate magnetic fields in a vacuum chamber Graded homework for a section of Mechanics &amp; Wave Motion</p> <p><b>Homework Hotline Tutor (HMC)</b> <b>Sept. 2012 - May 2013</b> Tutored student callers in mathematics and science from the elementary school level to the AP level</p>	
RELEVANT COURSEWORK	<p><b>Computer Science:</b> Machine Learning<sup>3</sup>, Machine Learning for Trading<sup>3</sup>, Data &amp; Visual Analytics<sup>3</sup>, Database Systems Concepts &amp; Design<sup>3</sup>, Knowledge-Based Artificial Intelligence<sup>3</sup>, Artificial Intelligence for Robotics<sup>3</sup>, Software Development Process<sup>3</sup>, Human-Computer Interaction<sup>3</sup>, Introduction to Health Informatics<sup>3</sup>, Computational Photography<sup>3</sup>, Algorithms, Data Structures and Program Development, High-Performance Computing, Computability &amp; Logic, Compilers &amp; Languages, Operating System Concepts, Software Engineering</p> <p><b>Mathematics:</b> Discrete Mathematics, Intermediate Probability, Differential Equations &amp; Linear Algebra II, Fourier Series &amp; Boundary Value Problems, Single &amp; Multivariable Calculus, and Probability &amp; Statistics</p> <p><b>Physics:</b> Computational Methods in Physics, Statistical Mechanics &amp; Thermodynamics, General Relativity &amp; Cosmology, Electromagnetic Fields, Quantum Mechanics, Theoretical Mechanics</p>	

<sup>1</sup>Regular usage<sup>2</sup>Prior exposure<sup>3</sup>Denotes Graduate-Level Course