

LARISA THORNE, MS

Innovative, experienced graduate researcher with data analysis, critical thinking, physics and design background looking to transition to industry job in data engineering.

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EDUCATION

PhD, Physics	2014 – Present
Carnegie Mellon University	
Master of Science, Physics	2014 – 2016
Carnegie Mellon University	
Bachelor of Science, Physics	2011 – 2013
University of California, Santa Barbara	

INTERNSHIP/RESEARCH EXPERIENCE

Graduate Research Assistant	Jan 2015 – Present
<i>Karlsruhe Tritium Neutrino Experiment, Carnegie Mellon University</i>	
Krypton Data Campaign	
• Wrote C++/ROOT scripts to analyze run data, using simulations to create field maps of detector	
• Dis/re-assembled cryogenically-cooled, ultra-high vacuum, high magnetic field detector, to troubleshoot	
<i>Medium Energy Physics Group, Carnegie Mellon University</i>	
Compton Polarimetry	
• Wrote Compton electron generator module for GEANT4 simulation package.	
• Wrote C++/ROOT scripts to run electron beam asymmetry-calculating algorithms, including error analysis. Improved results using GEANT4 simulations of system.	
Forensic Technician	April 2013 – Jan 2014
<i>Orion Architecture</i>	
• Completed calculations for structural/waterproof building failure investigation.	
Worster Fellow	June 2012 – Sept 2012
<i>Mazin Physics Group, University of California at Santa Barbara</i>	
• Millisecond pulsar timing simulations (Python, IDL) for optical through near-IR range.	
Summer Undergraduate Research Fellow	June 2011 – Aug 2011
<i>LIGO Crackling Lab, California Institute of Technology</i>	
• Characterized crackling noise in married-steel cantilever blade springs.	

PROJECTS

Laser Cutter
• Wrote original software (Python) that talks via serial to an Arduino Uno, to control laser cutting hardware (Adafruit MotorShields, stepper motors, timing pulleys, 405nm laser, self-designed 3D printed parts). See documentation and video demo on personal website.
Webpage design
• Designed and constructed personal website in HTML, from scratch.

SKILLS

Software (Python, C++, HTML/CSS, Fortran)
Data analysis (C++, ROOT)
Shop Equipment (Mill, drill press, bandsaw in aluminum, steel, acrylic)
Instruction/Leadership (Supplemental Instruction Leader, Recitation Teaching Assistant x3)
OS (Linux, OSX, Windows)
Language (English, German, Spanish)
Martial arts

COURSEWORK

Machine Learning (grad)
Mathematical Methods (undergrad + grad)
Electricity & Magnetism (undergrad + grad)
Quantum Mechanics I, II (undergrad + grad)
Statistical/Thermal Mechanics (undergrad + grad)
Intro to CS Fundamentals (undergrad)
Analog Electronics, Digital Electronics (undergrad)
Nanophotonics Engineering (grad)
Particle Physics (grad), Astrophysics (grad)