

EDUCATION

Expected 2019	<i>Ph. D.</i> , Experimental Particle Physics <i>Massachusetts Institute of Technology</i> , Cambridge, MA	GPA: 5.0/5.0
May 2014	<i>B.S.</i> , Physics (with Honors), <i>B.S.</i> , Nuclear Engineering Minor in Mathematics <i>The Pennsylvania State University</i> , University Park, PA	GPA: 4.0/4.0

EXPERIENCE

2014 - Present	Graduate Research Assistant <i>Geneva, Switzerland and Cambridge, MA</i> <ul style="list-style-type: none">• Implemented consistency check for disk contents of globally distributed computing centers, recovering several TBs of disk space and reducing read errors for users• Wrote unit tests for cleaning tools used by site admins at research computing centers• Created web interface with data collection for CERN data production operations• Authored high-performance software in C++ to analyze TBs of data via batch systems• Used machine learning package TMVA for both event classification and regression• Installed and maintained Jenkins, MySQL, MongoDB, and Apache Web servers• Managed team of junior developers to document and deliver applications
Summer 2013	CERN Summer Student <i>Geneva, Switzerland</i> <ul style="list-style-type: none">• Studied reconstruction parameters' impact on measurement resolution• Recommended parameter which was subsequently adopted by CMS collaboration
2011 - 2013	Undergraduate Student <i>University Park, PA</i> <ul style="list-style-type: none">• Lectured visiting high school students on reactor physics• Organized the technical review committee for student-run conference• Created model using MATLAB for neutron flux in closed-loop molten salt reactor• Simulated generation of high-energy photons for detecting weapons-grade material using the C++ toolkit Geant4; presented results to Westinghouse executives

COMPUTER SKILLS

Languages	C++, Python, Bash, Perl, PHP, SQL, JavaScript, R, MATLAB, Fortran
Systems & Services	Linux (Scientific Linux, Debian/Ubuntu), Apache Web Server, Jenkins, Travis-CI, MongoDB, MySQL/MariaDB, HTCondor, LSF, Hadoop, Spark
Software	Sphinx, Doxygen, Docker, Git, PyLint, Emacs, GCC, Make, ROOT, Geant4, TMVA, CherryPy, Django, Scikit-learn
Markup	HTML, CSS, reStructuredText, Markdown, \LaTeX

HONORS AND AWARDS

2014	<ul style="list-style-type: none">• National Science Foundation Graduate Fellow• MIT Physics Department Otis Fellow• Student Marshal of Eberly College of Science and Nuclear Engineering Department
2013	<ul style="list-style-type: none">• Astronaut Scholarship Foundation Award
2012	<ul style="list-style-type: none">• Department of Energy Nuclear Energy University Programs Scholarship• American Nuclear Society Accelerator Applications Division Scholarship