

Résumé

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EDUCATION

2016 (Expected) **Doctor of Philosophy** in Physics
University of Wisconsin, Madison WI, USA
 Thesis: *Search and discovery with the resonant $\gamma\gamma$ final state at ATLAS*
 Advised by Prof. Sau Lan Wu

2010 **Bachelor of Arts** in Physics, Honors
University of Chicago, Chicago IL, USA
 Advised by Prof. Edward Blucher

EXPERIENCE

2011 - 2016 **Graduate Research Assistant**, *Department of Physics, University of Wisconsin*

- Discovered Higgs boson, performed first measurements of mass, couplings, and spin
- Developed widely used analysis software with C++, Python, ROOT, & shell scripts
- Statistical expert, created new Monte Carlo method to reduce CPU usage by 1000×
- Invented algorithm to spatially and temporally match CMOS chip hits at LBNL
- Optimized physics searches with TB-scale datasets using machine learning techniques
- Contributed significantly to 21 papers & notes, author on 250+ ATLAS publications
- Wrote and coordinated successful DoE funding reports for Wisconsin ATLAS Group

2014 **Graduate Teaching Assistant**, *Department of Physics, University of Wisconsin*

- Led discussions and labs on classical mechanics, electrodynamics, thermodynamics
- Designed supplemental exercises and summary notes that boosted exam performances

2010 - 2011 **CERN Technologist**, *Enrico Fermi Institute, University of Chicago*

- Electronic calibration expert for the ATLAS Experiment hadronic calorimeter
- Developed & maintained calibration software package using Python and MySQL
- Documented, monitored and reported on detector status to collaboration

2009 - 2010 **Undergraduate Research Assistant**, *Enrico Fermi Institute, University of Chicago*

- Developed particle detector simulation in C++ with ROOT and Geant4 libraries
- Constructed μ particle modules, worked in machine shop, tested electronics

SKILLS

Scientific	Physics, Statistics, Simulation, Numerical Methods, Data Structures, High Throughput Computing, Databases, Machine Learning, Public Presentation
Programming	C++, Python, Java, L ^A T _E X, Unix/Linux shell scripting, ROOT, Matlab, SQL, TensorFlow
Languages	English (native), French (basic oral and written communication)

VOLUNTEERING & OUTREACH



- Newtonian physics demonstration for Chicago Public Library 2016
- US voter outreach & registration at CERN 2016
- Discussed research & funding with U.S. lawmakers in Washington D.C. 2014, 2015
- Created GIF visualizations of Higgs boson discovery data 2013
- Visited classrooms at the Chattanooga School for the Arts & Sciences 2012

AWARDS

2015 **Teaching Assistant Rookie of the Year**, *Department of Physics, University of Wisconsin*
 2013, 2014 **Lightning Round Winner**, *US LHC User's Association Annual Meeting*