WILLIAM NASH

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WORK EXPERIENCE

UCLA Physics Department / CERN July 2016 - March 2022
PhD Candidate under Jay Hauser (hauser@physics.ucla.edu) *Los Angeles, CA*

- Conducting petabyte-scale data analysis utilizing LHC data and Monte Carlo simulation
- Devised mathematical techniques used for evaluation of systematic uncertainties
- Developed pattern recognition algorithm improving muon position resolution by a factor of two
- Mentored and trained two undergraduate students

Mevion Medical Systems September 2015 - July 2016
Software Engineer I: Physics and Algorithms *Littleton, MA*

- Designed and wrote data acquisition, data analysis and control system software
- Individually devised algorithms used for real-time position modulation of proton beams
- Created GEANT4 batch farm using Amazon Web Services (AWS)

Mevion Medical Systems June 2014 - September 2015
Physics Assistant *Littleton, MA*

- Optimized and designed components of a 250 MeV proton synchrocyclotron
- Commissioned and verified radiation fields produced by models installed in hospitals
- Simulated and tested 800 ampere water-cooled dual-axis magnet prototype

CERN February 2013 - September 2013
Researcher under Lucie Linssen (lucie.linssen@cern.ch) *Geneva, Switzerland*

- Developed particle tracking code used to calibrate novel W-DHCAL hadronic calorimeter
- Wrote algorithm matching muon data to simulation over full energy range of $10 - 300$ GeV

EDUCATION

UCLA *March 2022*
PhD in Physics

Boston University *May 2014*
BA in Physics (*cum laude*)
Member of Sigma Alpha Mu

TECHNICAL STRENGTHS

Computer Languages	Python, C/C++, Unix, Markdown, LaTeX, CSS, Java
Programs	numpy, git (w/ CI), matplotlib, pandas, scipy, numba, tensorflow, sklearn
Skills	Cloud computing, data analysis, statistics, REST APIs, academic tutoring
Languages	Limited working proficiency of French

ACTIVITIES

Volunteering CERN Open Days 2019, Explore Your Universe 2018, 2017

PUBLICATIONS

CMS Author Feb 24, 2019 - Present

W. Nash, C. Grefe, "Beam Profiling through Wire Chamber Tracking", LCD-Note-2013-009, 2013