Benjamin Tannenwald

https://github.com/btannenw
www.linkedin.com/in/btannenw

+1-614-648-4323
btannenwald@gmail.com

Experience

Graduate Research Associate
Columbus, OH/Geneva, CH

Ohio State University/CERN
2013 - 2017

- Worked in large data analysis collaboration to perform precise measurements of fundamental particles and search for new signatures of the Higgs boson with petabyte scale datasets collected at the CERN Large Hadron Collider
- Developed C++ software frameworks used by physicists at 6 collaborating international and American institutions
- Designed distributed computing algorithms to sift through terabytes of physics data, categorize events based on significant criteria, and optimize reconstruction of subatomic interactions using combinatorical likelihoods
- Created data-driven methods for modeling background processes in searches for novel experimental signatures
- Experience with statistical techniques to model uncertainties in complex multivariate processes and calculate significance of observed results
- Worked extensively with industrial control software, designing and commissioning user interfaces for experimental devices
    - Tested and installed sensitive silicon and diamond-based pixel detectors
    - Used WinCC to create data structures and interface for efficient detector monitoring and operation
- Presented analysis work and results to research groups inside the collaboration and to larger audiences at international scientific conferences
- Developed and maintained Condor computing cluster used for simulation and data analysis

Graduate Teaching Associate
Columbus, OH

Ohio State University
2011 - 2013

- Taught undergraduate holography, lab courses, and general physics classes covering kinematics, electromagnetism, nuclear physics, and thermodynamics (each 20-30 students)
- Received Hazel Brown Outstanding Teaching Assistant Award in 2012

Independent Projects
Columbus Political Campaign Finance

- Used Python with scrapy, BeautifulSoup, numpy, and matplotlib to scrape city government databases for municipal campaign finance information in Columbus, OH, created a database for querying the scraped data, and used information to find patterns in campaign activity and fundraising

Education

Ph.D. in experimental particle physics, Ohio State University, Columbus, OH	*2017*
M.Sc. in physics, Ohio State University, Columbus, OH	*2013*
B.S. in physics, University of Kansas, Lawrence, KS	*2011*
B.A. in mathematics and anthropology, University of Kansas, Lawrence, KS	*2011*

Skills

- Computing languages: C++, Python, shell scripting, LaTeX, WinCC, and Mathematica
- Tools: Scrapy, BeautifulSoup, Numpy, Matplotlib, Git, Condor
- Languages: English (native), French (fluent)