Peter Winslow

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EDUCATION

UNIVERSITY OF BRITISH COLUMBIA

PhD in High Energy Particle Physics and Cosmology
2009-2013 | Vancouver, BC

M.Sc. in High Energy Particle Physics and Cosmology
2007-2009 | Vancouver, BC

UNIVERSITY OF WINNIPEG

B.Sc. in Mathematical Physics
2002-2007 | Winnipeg, MB

SKILLS

PROGRAMMING

Fully Proficient:
Python • Mathematica • Matlab • LaTeX • BASH • Hadoop • Spark
Semi Proficient:
C • C++ • MySQL • HTML • CSS • Javascript • Jquery • Bootstrap
Familiar:
Hive • Pig • KNIME

RESEARCH

UNIX/LINUX • OS X • Statistics • Machine Learning • Data Mining • Statistical Modeling • Data Visualizations • NumPy • Pandas • Scikit-learn • Matplotlib • Seaborn • git • Big Data • Neural Networks • Monte Carlo Simulations • High Energy Particle Physics (HEP)

LANGUAGES

Fully Proficient: English
Semi Proficient: French
Basic: Hungarian

EXPERIENCE

AMHERST CENTER FOR FUNDAMENTAL INTERACTIONS (ACFI) | Postdoctoral Research Fellow

September 2013 – Present | University of Massachusetts, Amherst MA USA

- Led two major research programs in high energy particle physics & cosmology
- Developed and optimized machine-learning based analysis (boosted decision tree classifier) to study statistical sensitivity of future collider experiments currently in the design phase to various new physics models
- Developed software to perform Monte Carlo simulations over high dimensional multivariate data using distributed computing systems in the form of two clusters with 200 and 309 nodes, respectively
- Attained extensive experience in manipulation, filtering, and visualization of large multivariate datasets
- Applied statistical analysis to both simulated and real collider data including Chi-Squared based parameter estimation
- Made extensive use of analytical techniques in quantum field theory and cosmology
- Projects associated with these two programs successfully resulted in five peer-reviewed articles with three more currently being written

TRIUMF | Research Assistant

September 2007 – August 2013 | TRIUMF, Vancouver BC Canada

- Performed numerical and statistical analysis and created visualizations using the Mathematica computer algebra system
- Applied statistical analysis to both simulated and real collider data including Chi-Squared based parameter estimation
- Made extensive use of analytical techniques in quantum field theory and cosmology
- Projects during this time successfully resulted in five peer-reviewed articles

TRIUMF | Research Assistant

May 2007 – August 2007 | TRIUMF, Vancouver BC Canada

- Employed singular value decomposition analysis to reconstruct gamma ray paths in a high purity Germanium detector
- Project successfully resulted in an internal technical report for the TIGRESS group

TRIUMF | Research Assistant

May 2006 – August 2006 | TRIUMF, Vancouver BC Canada

- Developed C++ code to implement Kolmogorov-Smirnov tests for quality improvement of data acquisition
- Project successfully resulted in an internal technical report for the TWIST group

SELECTED AWARDS

2013	1st in Canada	Institute of Particle Physics Theory Fellow | Declined
2011	National	Canada NSERC PhD Fellowship
2008	National	Alexander Graham Bell Canada Graduate Scholarshp
2006	1st/Prairie Provinces	TRIUMF Summer Research Award
2002	1st/school division	William & Jean Meagher Scholarship