Thomas Gadfort

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Data Science & Quantitative Analysis Professional

Driven, technically-savvy professional with a decade of accomplishments in scientific research in experimental particle physics seeking to bring talents to the field of data science and quantitative analysis. Experience collaborating with and leading diverse, international teams on the analysis of large, complex data for the U.S. Department of Energy. Exceptional communicator with experience presenting results and drafting content for a variety of collaboration materials and publications. Ph.D. with a history of academic excellence.

Areas of Strength

Data Analysis • Data Modeling • Statistical Analysis • Research • Big Data • Quantitative Analysis • Data Mining
Project Management • Decision Support • Presentation • Public Speaking • Team Leadership • Communication

PROFESSIONAL EXPERIENCE

FERMI NATIONAL ACCELERATOR LABORATORY, Batavia, IL
Associate Scientist, 2012 - Present
Responsible for scientific data analysis and project management for this U.S. Department of Energy national laboratory specializing in high-energy particle physics.

- Developed a C++ framework for an experiment and simulation allowing for accurate prediction of data available for analysis.
- Established the reliability of an analysis method designed to extract certain properties from high-volume time-dependent signals using several χ^2 minimization and matrix inversion techniques with the RooStats C++-based statistical framework.

BROOKHAVEN NATIONAL LABORATORY, Upton, NY
Goldhaber Fellow, 2009 - 2012
Three-year appointment to support scientific research for this U.S. Department of Energy multidisciplinary laboratory dedicated to the advancement of physics, chemistry, and biology, and other sciences.

- Recruited as a leader of the ambitious and renowned ATLAS experiment team, contributing initial discovery, coordination of analysis and mining efforts, and sophisticated statistical analysis of data.

COLUMBIA UNIVERSITY, New York, NY
Postdoctoral Researcher, 2007 - 2009
Postdoctoral fellow for the private ivy league research university located in NYC.

- Served as a group leader during the development of a highly efficient algorithm to identify bottom-quark jets using a novel multivariate technique known as boosted decision tree.
- Pioneered use of the matrix-element analysis technique to for an experiment, a method isolates specific signal events in the presence of large backgrounds by integrating over Bayesian priors.

EDUCATION & HONORS

Ph.D., High Energy Physics, University of Washington, Seattle, WA (2007)
Eugene Kenneth Miller Award for Graduate Research

B.A., Physics and Mathematics, University of Tennessee, Knoxville, TN (2001)
Douglas V. Roseberry Award for Excellence in Physics
Sigma Pi Sigma Honor Society

SOFTWARE & TECHNICAL EXPERTISE

- Office Applications – Microsoft Office (Word, Excel, PowerPoint), Mac OS (Keynote, Pages)
- Operating Systems – Windows 2000/XP/7, Linux/Unix, Mac OS 10+
- Programming Languages – C, C++, FORTRAN, Visual Basic, Java, Perl, SQL, BASH and Python scripting
- Web Development – HTML, XML, PHP, JavaScript, Python
- Scientific Applications – ROOT C++ framework, R, GEANT4, GNU Scientific Library, Mathematica