

## Jeremiah Jet Goodson

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## Objective:

My experience in particle physics included developing software for a large scientific collaboration and analyzing large physics datasets. I am seeking a career that will allow me to apply this experience to new and interesting projects.

## Skills

- Programming Languages: C/C++, Python, Perl, R, HTML/CSS
- Software: Firefox, Chrome, LaTeX, GIMP, ROOT (C++ Statistical & Graphics Library)
- Operating Systems: Linux (Ubuntu, Scientific Linux), Windows (XP, Vista)
- Well-versed in analyzing large statistics datasets and analytical problem solving
- Experienced in grid computing
- Familiar with Machine Learning techniques

## Education

- **Stony Brook University** Stony Brook, NY  
*Doctor of Philosophy in Physics* August 2004 - May 2012
  - Dissertation: *Search for Supersymmetry in States with Large Missing Transverse Momentum and Three Leptons including a Z-boson*  
(<http://cdsweb.cern.ch/record/1449722>)
  - GPA: 3.62
  - National Science Foundation USLHC Graduate Student Support Award**, 2009, awarded to support student research at the Large Hadron Collider
- **University of Colorado** Boulder, CO  
*Bachelor of Arts in Mathematics & Physics, magna cum laude* August 2000 - May 2004
  - Honors Thesis: *Study of the Second Neutralino*
  - GPA: 3.489

## Work Experience

- **Research Foundation, Stony Brook University** Stony Brook, NY  
*Research Assistant* May 2006 - May 2012
  - Member of the ATLAS Experiment of the LHC at Europe's CERN lab (on site for 4.5 years)
  - Collaborated in small (3 person) to medium (~10 person) programming and analysis teams
  - Developed analysis framework applied to search for new physics on large datasets
  - Produced python/C++ tools for un-packing OOP physics classes to flat n-tuples
  - Originated C++ tool for error analysis in ATLAS of missing transverse momentum
  - Improved real-time status monitoring software of particle detector electronics
  - Experienced with monitoring shifts on particle detector for data quality and safety
  - Coordinated ~12 person team of shifters/on-call experts in monitoring ATLAS Detector
- **Physics & Astronomy Department, Stony Brook University** Stony Brook, NY  
*Teaching Assistant* August 2004 - May 2006
  - Guided students in laboratory setting, including grading and student tutoring

## Work Experience (continued)

- **United States Postal Service** Grand Junction, CO  
*Casual Mail Handler (summer job, graveyard shift)* July 2004 - August 2004
  - Operated mail sorting machine and engaged in quality control of sorting outcome
  - Performed general tasks related to preparing mail for delivery
  
- **Physics Department, University of Colorado** Boulder, CO  
*Undergraduate Research Assistant (unpaid)* May 2003 - May 2004
  - Developed analysis/simulations to study capabilities of the proposed Next Linear Collider

## Publications

**“Search for Supersymmetry in Events with Three Leptons and Missing Transverse Momentum in  $\sqrt{s} = 7$  TeV pp Collisions with the ATLAS Detector”**, 26 April, 2012, submitted to Phys. Rev. Lett.  
arXiv:1204.5638v1 [hep-ex]

**“Constraining R-Parity Violating Minimal Supergravity with  $\tau_1$  LSP in a Four Lepton Final State with Missing Transverse Momentum”**, 25 March, 2012, ATLAS Internal Note, ATL-PHYS-INT-2012-014

**“Search for Supersymmetry in Events with Four or More Leptons and Missing Transverse Momentum in pp Collisions at  $\sqrt{s} = 7$  TeV with the ATLAS Detector”**, 24 January, 2012, ATLAS Conference Note, ATLAS-CONF-2012-001

**“SUSY Searches at ATLAS in Multilepton Final States with Jets and Missing Transverse Energy”**, 23 March, 2011, ATLAS Conference Note, ATLAS-CONF-2011-039

**“Details on Early supersymmetry Searches in Channels with Jets and Missing Transverse Momentum with the ATLAS Detector”**, 20 August, 2010, ATLAS Internal Note, ATL-PHYS-INT-2010-082

**“Details on Early Supersymmetry Searches with Jets, Missing Transverse Momentum and One or More Leptons with the ATLAS Detector”**, 20 August, 2010, ATLAS Internal Note, ATL-PHYS-INT-2010-083

**“Performance of the Missing Transverse Energy Reconstruction and Calibration in Proton-Proton Collisions at a Center-of-Mass Energy of 7 TeV with the ATLAS Detector”**, 15 June, 2010 ATLAS Internal Note, ATLAS-COM-CONF-2010-059

**“Monitoring of the ATLAS Liquid Argon calorimeter”**, Proceedings from the 17th International Conference on Computing in High Energy and Nuclear Physics in Prague, Czech Republic, 2009 J. Phys.: Conf. Ser. 219  
<http://iopscience.iop.org/1742-6596/219/2/022034>

## Presentations

**“Multiple Lepton Searches for SUSY with Missing Transverse Energy”**, USATLAS Annual Workshop, Boston, MA, 16 August, 2011

**“Search for Multilepton Final States of Supersymmetry at the ATLAS Detector”**, Meeting of the Division of Particles and Fields of the American Physical Society, Providence, RI, 10 August, 2011

**“ $E_T^{\text{miss}}$  in ATLAS with a View to SUSY”**, LBNL/MIT10: Implications of First LHC Data in Boston, MA, 13 August, 2010

**“Muon Corrections to MET”**, 4th ATLAS Hadronic Calibration Workshop in Tucson, AZ, 15 March, 2008