Josiah Couch

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Education

University of Texas at Austin, Austin, TX

Ph.D in Physics (3.68 GPA) *August 2013 - May 2020 (expected)*

- Dissertation Title: "Circuit Complexity in QFT and Holography" (tentative).
- Courses: Quantum Mechanics 1, Classical Mechanics, Statistical Mechanics, Electromagnetic Theory 1, Quantum Field Theory 1 & 2, Relativity Theory 1, String Theory 1 & 2, Algebraic Topology, Representation Theory.

Oklahoma State University, Stillwater, Oklahoma

B.S in Physics and B.S. in Mathematics *August 2009 - August 2013*

- 10 Months study abroad at Technical University of Munich, Munich, Bavaria, Germany.

Experience

University of Texas at Austin, Austin, TX

Graduate Student in Weinberg Theory Group under Prof. Willy Fischler *August 2015 - Present*

- Four papers published in peer reviewed journals with a total of 150 citations, four conference presentations, and numerous internal presentations.
- Regularly collaborate with other physicists to do original research, especially at the intersection of quantum information and quantum gravity.

Teaching Assistant *August 2013 - Present*

- Provide supplemental instruction on course material and problem-solving techniques to students in review sessions.
- Create official solutions to problem sets and grade student submissions.
- Courses TAed include graduate and undergraduate quantum mechanics, the lab for engineering physics, and classical electrodynamics.

Graduate Research Assistant with Center for Particles and Fields under Prof. Peter Onyisi *June - July 2014*

- Worked on data analysis and python programming at CERN's campus in Meyrin, Switzerland.
- Used pyROOT and TMVA machine learning package to study feature importance in classification task.
- Wrote script in python to retrieve infromation about the state of the ATLAS detector from COOL database.

Max Planck Institut für Physik, Munich, Bavaria, Germany

Scientific Assistant with Experimental Particle Physics Group, 6 week contract *April- May 2013*

- Tested and calibrated pixel detectors for ATLAS upgrade.

Oklahoma State University, Stillwater, OK

Undergraduate Researcher in Experimental Particle Physics Group under Prof. Flera Rizatdinova *January 2010 - May 2012*

- Used C++ and ROOT package for event classification and ultimately for estimation of number of signal events.
- Presented work in poster and live presentations.

Skills

Soft Skills: Quantitative Problem Solving, Research, Advanced Mathematics
Technologies:
Intermediate: Python, Git, Mathematica, LaTex,
Beginner: SQL, Linux, Java, C++, Javascript, Haskell

Interests

Quantum Gravity, Quantum Information Theory, Programming, Photography, Video Games, Languages