Josiah Couch

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Education

University of Texas at Austin, Austin, TX

Ph.D in Physics (3.6 GPA)   *August 2013 - May 2020 (expected)*

- Adviser: Willy Fischler
- 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 the Technical University of Munich, Munich, Bavaria, Germany.

Experience

University of Texas at Austin, Austin, TX

Ph.D. Candidate   *August 2013 - Present*

- Four papers published in peer-reviewed journals and an additional two under review with over 180 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 a classification task.
- Wrote a script in python to retrieve information about the state of the ATLAS detector from a COOL database.

Max Planck Institut für Physik, Munich, Bavaria, Germany

Scientific Assistant with Experimental Particle Physics Group, six-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 the number of signal events.
- Presented work in a poster and live presentations.

Skills

Soft Skills: Quantitative Problem Solving, Research, Advanced Mathematics
Technologies:
    Intermediate: Python, Git, Mathematica, LaTex,
    Beginner: SQL

Interests

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