Shane W. Adkins

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Education

Michigan State University, East Lansing, MI–September 2017-May 2020 (Expected)

Physics Bachelor of Science
Computational Mathematics, Sciences, and Engineering Minor
GPA: **3.24**—Dean's List Spring 2018, Fall 2018

Michigan State University, East Lansing, MI—September 2012-December 2016

Advertising Bachelor of Arts
GPA: **2.91**

Relevant Coursework

PHY294H—Honors Electromagnetism: **4.0**
PHY415—Methods of Theoretical Physics: **3.5**
CMSE201—Introduction to Computational Modeling: **4.0**
CMSE202—Computational Modeling Tools & Techniques: **4.0**

Experience

MSU Department of Physics & Astronomy, East Lansing, MI—September 2018-May 2019 (2 semesters)

Undergraduate Learning Assistant (PHY184—Electromagnetism): Held daily office hours to help students understand material, answers questions, and work through homework/practice problems. Proctored all exams

Packard Farms, Clare, MI—2003-Present

Operator, maintenance: Performed miscellaneous maintenance and operated crop field equipment on my family's dairy farm since age 10

Rogers Athletic, Farwell, MI—May 2013-August 2014 (summers)

Sales Intern: Sold football equipment to NFL, collegiate, and high school teams. Filled out work orders, communicated with logistics department, and completed miscellaneous office tasks. Facilitated highest dollar sale of summer of 2014

Projects

- **Mathematics of Tsunamis**—voted 3rd place by graduate level classmates for poster analyzing special case of 2D wave equation. Studied how ocean floor slope affected wave height and impact of tsunami on shore. Used MATLAB to solve differential equations and create visualizations
- **Quantum Computing Simulations and Noise Analysis**—worked with members of project team to predict precision of quantum computer based on its quality using machine learning. Used Python and collaborated through GitHub repository**.** Was responsible for project strategy and implementation of necessary quantum mechanics & matrix algebra applications. Wrote code for object-oriented program to perform gate operations on quantum bits
- **Machine Learning & Image Processing Project**—Used machine learning to predict if potentially cancerous growths were malignant or benign. Also, separately, used 2D Fourier transform and applied a mask to reveal identity of a mystery image
- These projects and more can be viewed at https://github.com/adkinss1/Portfolio.git

Skills

- Experienced in Python, MATLAB, C++, Mathematica
- Worked with GitHub, command line interfaces, Jupyter Notebook, Kaleidagraph
- Used computational modeling tools such as machine learning, Monte Carlo Markov chains, multiple types of differential equation solvers, graph theory, neural networks, Fourier transforms
- Utilized third party Python modules such as numpy, matplotlib, pandas, scipy, sklearn, qiskit
- MacOS and Windows, Dropbox, Google Drive, Microsoft Office apps including Excel, Word, PowerPoint
- 2nd place at 2015 USAPL State Championship powerlifting meet, All-state high school basketball