Christopher Jacobs

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Summary

Energetic Graduate Teaching Assistant with a master's degree in mathematics and experience supporting others in research and education. Excellent instructor, project manager and research leader. Built productive relationships with all levels of students and educators.

Experience

GRADUATE TEACHER'S ASSISTANT | 08/2020 - Current
Purdue Fort Wayne - Fort Wayne, Indiana
- Mentored students in the ability to communicate and do physics
- Improved labs and pedagogical skills weekly with professors of physics
- Guided students through scientific ways of knowing
- Monitored student progress using quizzes and assignments to check for thorough understanding

PHYSICS TUTOR AND LAB ASSISTANT| 08/2019 - 05/2020
Purdue Fort Wayne - Fort Wayne, Indiana
- Assisted students with developing and applying analytical skills useful for different physics equations.
- Wrote physics problems to help students advance knowledge.
- Encouraged students during emotionally difficult moments in the learning process

COMPUTERIZED MAINTENCE MANAGEMENT SYSTEM INTERN | 06/2019 - 01/2020
Water Pollution Control Plant - Fort Wayne, Indiana
- Began to improve efficiency of working place through app development (Swift and XCode)
- UX development using an extensibility framework (built on Infor EAM database)
- Automated daily data transfer using python

Research

Quantum entanglement – Single Photon Experiments | 08/2019 – Current
Goal: To learn about the quantum nature of photons and explore models of light
- Self-taught material in optics and quantum mechanics
- Set up of experiments to explore ideas in quantum optics including use of spectrometers and interferometers
- Mentored 4 students in conducting research, writing presentations, writing papers, and summarizing pertinent research papers

Senior Thesis – Reverse Biased Diodes as Photon Detectors | 12/2019 – 05/2020
- Conducted an experiment, gathered results, and wrote a scientific article
- Integrated, built, and troubleshot an integrating sphere, circuit board, PSoC, Serial inputs, python, and excel to collect and analyze data
- Mentored a high School student in the scientific method and a rigorous scientific experiment

SPAD – Single Photon Avalanche Detection | 08/2019 – 12/2019
Goal: To make a cost-effective circuit that can be used to detect photons

- Experience in electronics and quantum mechanics
- Designed and fabricated circuit boards

Projects

- Link: https://github.com/jacobsc050/projects

Certifications

JavaScript Foundations Gold Badge Coder – 1150 Academy | 05/2018 **-** 06/2018

- Built a website using HTML, CSS, and JavaScript
- Built a recipe generator with use of an API
- Experience with Git Hub, IDEs, collaboration using Stack Overflow
- Built a portfolio using Bootstrap: https://jacobsc050.github.io/portfolio/

Education and Training

Purdue Fort Wayne - Fort Wayne, IN | Master of Science

Degree: Mathematics with concentration in physics, Earned: 12/2021

- 3.83 GPA

Purdue Fort Wayne - Fort Wayne | Bachelor of Science

Degree: Physics with minor in Mathematics, Earned: 05/2020

- 3.34 GPA

University North Manchester - North Manchester | 3 Years of Courses (No Degree)

Physics, Mathematics

- 3.73 GPA