Miguel Aguirre Jr.

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Github account:
https://github.com/migsboson1

OBJECTIVE	*Looking to apply knowledge acquired from physics, mathematics, and programming in an environment that will continuously help me learn and grow by means of both collaborative and independent projects/work.*

EDUCATION

University of California, Berkeley, Berkeley CA
Bachelor's Degree, Physics
Received May, 2020

TECHNICAL SKILLS

Programming Languages : Python(2yrs), Java(6months), Javascript(1yr), CSS(1yr), and HTML5(1yr)
Familiar : SQL(6months), LABVIEW(6months)
Tools : Latex, linux bash, and github

EXPERIENCE/ RESEARCH

Ultracold Atomic Physics Research UC Berkeley   **Sept 2018 - Feb 2020**
Worked under principle investigator Dr. Stamper-Kurn as an undergraduate research assistant. Group website: http://ultracold.physics.berkeley.edu/e8-ultracold-titanium

· **Tasks/Tools:**
- Characterized and plotted spectral lines of titanium atoms using python. The lines agreed with the atomic transitions our team had in mind and helped avoid optically pumping the atoms to the desired atomic state.
- Created a real-time temperature monitoring program for 16 different temperatures/apparatus's using python and an Arduino mega. The temperature monitor was implemented both remotely and on site as a means of keeping the lab and lab equipment safe.
- Installed the Advanced Real-Time Infrastructure for Quantum Physics (ARTIQ) control system and wrote code in python to test a few of its hardware components. This installation allowed our time sensitive sequential events to achieve higher precision and control.

RELEVANT COURSEWORK

Programming::
- Structure and Interpretation of computer programs, Data Structures, Web Design, and Computational Physics.

ACADEMIC/ PERSONAL PROJECTS

Ants vs SomeBees:
- Used Object Oriented Programming with python to create multiple classes in a video game analogous to plants vs zombie: https://inst.eecs.berkeley.edu/~cs61a/fa19/proj/ants/.

Restaurant Website
- Created an interactive website using HTML5, CSS, and Javascript that is responsive on all devices.
- The website was created for a local restaurant in southern California and is currently being used as an online menu.

The Enigma
- Created a program in java that emulated the enigma machine that Germany used to encrypt messages: https://inst.eecs.berkeley.edu/~cs61b/sp20/materials/proj/proj1/index.html.
- The project emphasized object oriented programming, abstract classes, and interfaces as well as java regular expressions (Regex).

Portfolio
- Created a portfolio using HTML5, CSS, and JavaScript that contains information about myself, projects I've done, and a link to my resume.