Jackson Sheppard

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EDUCATION

University of California, Santa Barbara September 2014 - June 2018
Bachelor of Science in Physics Received June 16, 2018, GPA: 3.79

Relevant Courses:
Intro to Scientific Computation (Python/Linux), Analog Electronics, Linear Algebra, Quantum Mechanics, Complex Variables, Advanced Mechanics, Electromagnetism, Thermal/Statistical Physics, Fluid Mechanics, Nonlinear Dynamics, Experimental Physics Lab

Georgia Institute of Technology May 7, 2020
Control of Mobile Robots, an online non-credit course offered through Coursera focusing on dynamics of linear systems and the theory to develop models and formulate stable control systems.

HONORS/AWARDS

SLAC: National Accelerator Laboratory
SLAC Spot Award for Dependability August 4, 2020
Selected by SLAC mechanical engineer for implementation of LCLS X-ray optics motion systems.

University of California, Santa Barbara
Dean's Honors Fall 2014, Winter 2015, Spring 2015, Winter 2016, Winter 2017, Fall 2017, Spring 2018
Department of Physics Academic Honors May 13, 2018

QUALIFICATIONS

- Highly motivated, independent worker, and dedicated to learning new skills.
- Good written/oral communication skills and strong organizational skills.
- Excellent deductive reasoning/problem solving skills.
- Proficient in Python, C++, Linux, Matlab, Epics, GUI Development (edm), PLC Programming (Beckhoff)

WORK EXPERIENCE

SLAC National Accelerator Laboratory: Menlo Park, CA September 2018 - Present
Science and Engineering Associate, Linac Coherent Light Source (LCLS), Photon Controls and Data Systems (PCDS)

- Responsibile for experiment support through integration of user controlled devices into PCDS control system.
- Provide on-call technical support for assigned experiments at assigned instruments to troubleshoot common controls problems and escalate when beyond expertise.
- Responsible for design, installation, and checkout of LCLS-II motion control systems for X-ray Offset Mirror System (OMS) and Time-resolved atomic, Molecular, and Optical Science instrument (TMO).

SLAC National Accelerator Laboratory: Menlo Park, CA June 2018 - September 2018
LCLS Internship Program

- Summer student working on beam dynamics of X-Ray Free Electron Laser.
- Focusing on efficiency optimization through undulator tapering: varying magnetic field along longitudinal axis to prolong electron energy depletion.
- Responsible for characterizing taper profile by developing relationship between magnetic field strength and longitudinal displacement that achieves TW level output power.

University of California, Santa Barbra: Goleta, CA January 2018 - June 2018
Undergraduate Research Assistant

- Interned in molecular dynamics physical chemistry lab focused on computational techniques of statistical physics to study biological processes.
- Worked on convolutional neural network using a variational autoencoder to study peptide folding, model generalizable to other biological problems.
- Used encoder to represent ensemble of peptides with one latent space coordinate and characterized the relationship of this coordinate to physical structural patterns.

University of California, Santa Barbra: Goleta, CA April 2018 - June 2018
Physics Study Room Fellow

- Tutor in "Physics Study Room" at university where undergraduates received help with their physics homework.
- Worked alongside graduate students helping students ranging from freshman-level with no background in physics to senior-level taking upper division courses.

University of California, Santa Barbra: Goleta, CA June 2016 - June 2018
DSP Proctor

- Proctor for Disabled Students Program (DSP), administered exams for students receiving testing accommodations.

VOLUNTEER EXPERIENCE

UCSB Physics Circus: Goletea, CA May 2017 - June 2017

- Program to promote science education at local elementary and high schools in the Santa Barbara area, held physics demonstrations at local "science nights" in Goleta area.