

BIANCA CHAMPENOIS

(650) 796-1808 ◇ bchamp@mit.edu

EDUCATION

Massachusetts Institute of Technology

2020 -

Master of Science Mechanical Engineering

Overall GPA: 5.0/5.0

University of California, Berkeley

2016 - 2020

Bachelor of Science Mechanical Engineering

Overall GPA: 3.92/4.0

EXPERIENCE

Stochastic Analysis and Nonlinear Dynamics (SAND) Lab

September 2020 -

Research Assistant

MIT

- Developed multi-fidelity models of ocean temperature and salinity using machine learning and optimal sampling techniques. Reduced order modeling and uncertainty quantification. Physics and machine learning.

Hello Robot

May 2020 - July 2020

Mechanical Engineering Intern

Martinez, CA

- Manufactured parts, configured electronics, and assembled robots. Improved the design of the product. Optimized, streamlined, and documented the fabrication process.

DAAD RISE

May 2019 - August 2019

Research Assistant

Technische Universität Hamburg, Germany

- Wrote control and reinforcement learning algorithms to maximize the power output from an Acrobot pendulum that is vertically excited by ocean waves. Used LabVIEW and Raspberry Pi to collect data on the performance of the pendulum.

Environmental Fluid Mechanics and Hydrology Lab

January 2019 - May 2021

Research Assistant

UC Berkeley

- Set up instruments and experiments to study the effect of surface flow on methane emissions from wetlands. Used Raspberry Pi to collect data on the relationship between the flow velocity and the rate of diffusion of gases.

Cal Energy Corps

May 2018 - August 2018

Research Assistant

Tecnológico de Monterrey, Mexico

- Designed PCBs for power converters for renewable energy integration. Selected and assembled passive and active components for circuits. Tested the converter and gathered data on its performance at high voltages and currents. Used LabVIEW to simulate the converter and design controllers to adjust the duty cycle of the circuit.

TECHNICAL STRENGTHS

Programming

Python, MATLAB, Java, HTML/CSS, SQL, NumPy, Pandas, ROS

Design

Adobe, AutoCAD, SolidWorks, Fusion, KiCad

Technical

3D printing, laser cutter, machine shop trained

Language

French (fluent), Spanish (proficient)

VOLUNTEERING ACTIVITIES

Graduate Association of Mechanical Engineers (GAME)

January 2021 -

Lunch Seminar Chair

MIT

- Organized seminars for graduate students to share their research with the broader community and practice their presentation skills. Streamlined the feedback process for attendees to provide advice to speakers. Hosted five events with over 20 participants at each event.

BicyCAL

September 2017 - May 2020

Head Mechanic

UC Berkeley

- In charge of running and maintaining a student-run bike shop, leading repairs and teaching customers how to fix their own bikes. Held weekly workshops for women to learn in an inclusive environment. Organized and taught a semester long class with lectures, worksheets, and assignments on bike repair and maintenance. Mentored students at Richmond High School through the process of building and designing an electric bike for a competition.

Solar Spring Break

September 2016 - May 2017

Fundraising Leader

UC Berkeley

- Led a team of 12 students to raise \$5,000 for Grid Alternatives. Installed solar panels on underserved Richmond residences over spring break while learning about the renewable energy industry.

AWARDS AND RECOGNITIONS

National Science Foundation Graduate Research Fellowship (2020)

Harrington Fellowship (2020)