Bianca Champenois

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Education

University of California, Berkeley 2016 - 2020 — B.S. Mechanical Engineering — 3.9 GPA

Relevant Coursework:

Dynamics, Finite Element Analysis, Fluid Mechanics, Heat Transfer, Energy Conversion Principles, Dynamic Systems and Feedback, Thermodynamics, Three Dimensional Modeling and Design, Manufacturing and Tolerancing, Programming for Engineers, Structure and Interpretation of Computer Programs, Data Structures, Information Devices and Systems

Work Experience

DAAD RISE / Research Assistant at Technische Universität Hamburg, Germany

May 2019 - August 2019

Coded control and reinforcement learning algorithms to maximize the power output of an acrobot pendulum that is excited by ocean waves. Used Raspberry Pi to collect data on the performance of the pendulum.

Environmental Fluid Mechanics and Hydrology Lab / Research Assistant at UC Berkeley

January 2019 - PRESENT

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

Cal Energy Corps / Research Assistant at Tecnológico de Monterrey, México

May 2018 - August 2018

Designed PCBs for power converters that will be used with solar panels. Purchased and assembled passive and active components for circuits. Tested the converter and gathered useful data. Used LabVIEW to simulate the converter and design controllers for the circuit.

BicyCAL / Mechanic

October 2017 - PRESENT

Led repairs for five hours each week at a student-run bike shop while 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 throug the process of building an electric bike for a competition.

Activities and Projects

Jacobs Hall Spark Grant: Binary Marbles

January 2019 - May 2019

Designed and manufactured a binary calculator that uses mechanical gates and marbles to represent electrical transistors and current. The final product teaches anyone interested in computer science about binary, computer architecture, abstraction, and logic in a unique and interactive way.

Solar Spring Break / Fundraising Leader

August 2016 - May 2017

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.

Engineers for a Sustainable World / Lead Scientist

August 2016 - December 2016

Researched ideal composting conditions. Designed and built three mechanized compost turners in the wooshop using recycled materials to reduce food waste on campus and teach students about zero waste.

Skills and Awards

Technical: MATLAB, AutoCAD, SolidWorks, Fusion, Python, Java, PCB Design (KiCad), Machine Shop Trained.

Language: Fluent in Spanish and French.

Awards: Aptiv Future of Mobility Scholarship (2018), Chevron Scholarship (2017), MIT Leadership Award (2016)