# Michael Celebrado

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## Experience

*Operations Lead* - Cal Space Technologies and Rocketry - April 2021 - Present
- Managing logistics and safety for testing and launching events for 50+ club members
- Updated standard operating procedures for hazardous club activities
- Led team of 15 members responsible for competition rocket technical report

*Airframe and Propulsion Member* - Cal Space Technologies and Rocketry - September 2020 - April 2021
- Collaborated with six others to minimize liquid rocket engine feed system pressure drop using Matlab
- Optimized fin geometry to increase apogee by 1,200 feet and reduce material weight by 25% using Solidworks

*Undergraduate Researcher* - Auslander Lab / May 2020 - September 2020
- Simulated the biomechanics of arterial blood flow through a bifurcation and two link biomechanical arm movement through schematics and animation in OpenModelica
- Programmed a differential algebraic equation solver in Python using NumPy, Matplotlib, and SciPy

## Projects

*High Powered Rockets* - March 2021 - August 2021
- Launched dual deploy, electronically recoverable rockets up to 10,800 feet using H-K motors
- Simulated and hand built three rockets using Solidworks, OpenRocket and basic tools
- Completed Level 2 High Power Certification flight and written assessment on May 1, 2021

*iPhone 11 Controller Mount* - February 2021 - May 2021
- Led group of three in prototyping an attachable, ergonomic controller for playing mobile games
- Design included flexible casing, adjustable buttons, and adjustable extensions using Fusion 360

*Wind Turbine Tower* - February 2021 - April 2021
- Hand sketched support tower for a 3D printed, ABS wind turbine
- Used finite element analysis in Solidworks to determine tower stiffness

## Education

University of California, Berkeley | GPA: 3.95 | *B.S. Mechanical Engineering* - Spring 2023

*Coursework*: Manufacturing and Design Communication | Three Dimensional Modeling for Design | Control Systems Properties of Materials | Solid Mechanics | Thermodynamics | Fluid Mechanics | Electronics for IoT

## Skills

*Computer Aided Design and Engineering*: ANSYS | AutoCAD | Solidworks | Fusion 360
*Programming*: MATLAB | Simulink | Python | Java | Arduino | OpenModelica
*Engineering*: GD&T | CNC | Engineering Drawings | Machining | Drafting | Technical Writing

## Outreach

*Engineering Representative* - Pilipinx Association of Scientists, Architects, and Engineers
*Member* - Bioengineering Honor Society
*Committee Member* - Biomedical Engineering Society