Dylan Shane Tabalan

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EDUCATION

California Polytechnic State University, San Luis Obispo — **B.S., Mechanical Engineering | *Concentration:* Mechatronics** — **June 2023**
GPA: 3.46

Skills: CAD (Solidworks, Fusion 360, CATIA V5), MicroPython, MATLAB, Geometric Dimensioning and Tolerancing (GD&T), Composite Manufacturing, Finite Element Analysis (FEA), Design for Manufacturing (DFM), Microsoft Office

WORK EXPERIENCE

Boeing Commercial Airplanes (BCA) - *Product Development Production Engineering Intern* — **06/22 - 09/22**
- Collaborated with manufacturing technicians, design engineers, and BR&T (Boeing Research & Technology) across the nation to support activities to address deviations that could impact design intent. safety, and product/process improvements
- Established a foundation for development of shimless manufacturing and assembly processes in a high mix, low volume future production system by acquiring manufacturing data and contacts across the nation and internationally
- Utilized CATIA V5 and Model-Based Systems Engineering to analyze wingbox part interfaces and address variations and risks for carbon fiber composite manufacturing
- Created a standard handbook for all future Product Development interns to assist department specific intern onboarding

Cal Poly Corporation - *Teaching Assistant (TA), Research Assistant* — **01/21 - 6/22**
- Led lecture activities to 100+ engineering undergraduates in the 'ME 212: Engineering Dynamics' course
- Implemented leadership and teaching skills by overseeing lessons and activities in kinematics, kinetics, work/energy, impulse, momentum, and impacts for particles and rigid bodies
- Developed Cal Poly's STEM curriculum research by implementing various class structures to increase passing rate by 4.0%

Voodle - *Product Research & Testing Intern* — **07/21 - 10/21**
- Led user studies including usability testing, cross-functional collaboration, surveying, synthesized reports, and new product design proposals to provide design suggestions that could improve the video sharing app
- Collaborated cross-functionally with software engineers and managers to implement developmental app features

PROJECTS

University Rover Challenge - *Senior Project* — **Fall 2022 - Spring 2023**
- Designed, built, programmed, and tested an all-terrain base rover capable of wireless remote control and autonomous through design reviews, prototypes, verifications, and tests
- Obtained Federal Communications Commission Ham (Amateur) Radio Technician Class Operator License to send commands and remote control the rover
- Utilized Quality Function Deployment (QFD) to assist in engineering specification development and heavy documentation to set up a rover base that can compete in next year's Mars Society's University Rover Challenge

Battleship Robot - *Mechatronics Class Project* — **Fall 2022**
- Designed, manufactured, programmed, and tested a device with 2.5 degrees of freedom, capable of accurately launching ping pong balls with the intention of landing the balls in grid locations set up to represent battleships
- Utilized SolidWorks to design the system and MicroPython to program and communicate with the robot for remote operation including DC, servo, and stepper motors

NASA L'SPACE Academy — **Winter - Summer 2020**
- Researched instrument properties (i.e. communications, data acquisition, and power systems) to create CAD models that ensure compliance with mission constraints and design
- Collaborated with nationally-selected team of 10 students to design an In-Situ Resource Utilization mission concept to scientifically characterize the polar water ice on Earth's Moon
- Received mission development and proposal writing and reviewing training from NASA scientists and engineers

LEADERSHIP AND VOLUNTEERING

PolyCultural Weekend (PCW) - *Operations Committee Head (2022)* — **Winter 2022**
7x24 Exchange Cal Poly (Mission Critical and Data Centers) - *President (2020-2021)* — **Fall 2020**
American Society of Mechanical Engineers (ASME) - *Public Relations Director (2020-2021)* — **Spring 2020**