Dylan Shane Tabalan

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EDUCATION

California Polytechnic State University, San Luis Obispo (Cal Poly) — **B.S., Mechanical Engineering** — **June 2023**
Concentration: **Mechatronics | *GPA:*** 3.48

Skills: CAD (Solidworks), Python, MATLAB/Simulink, Geometric Dimensioning & Tolerancing (GD&T), Composites, Finite Element Analysis (FEA), Programmable Logic Controllers (PLC), Design for Manufacturing (DFM)

WORK EXPERIENCE

Boeing Commercial Airplanes (BCA) - *Systems Manufacturing Engineer I* — **Aug 2023 - Present**
- Collaborates with technicians, design engineers, and tooling engineers to determine requirements for tooling to improve accuracy of pilots' heads up display alignment and reduce rework and meet proposed production rates
- Updates legacy build plans by investigating and verifying the project plan requests and revisions from different departments
- Utilizes CAD models to lead change and refurbishment reviews to proactively initiate removal processes to improve timelines

Cal Poly Industrial & Manufacturing Engineering - *Automation Lab Assistant* — **Apr 2023 - June 2023**
- Developed IME 356: 'Manufacturing Automation' lab materials for Yaskawa's MP2300Siec controller, MotionWorks 3 IEC, and 2 servo motors based on Yaskawa product orientations to teach students ladder logic manufacturing applications
- Advised student term projects that included the use of PLC programming (Rockwell Allen-Bradley), Keyence XG machine vision, human-machine interfaces (HMI), pneumatics, servos, and sensors

Boeing Commercial Airplanes (BCA) - *Product Development Production Engineering Intern* — **June 2022 - Sep 2022**
- Collaborated with manufacturing technicians 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 to analyze wingbox 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 Mechanical Engineering - *Teaching Assistant (TA)* — **Jan 2021 - June 2022**
- 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* — **July 2021 - Oct 2021**
- 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 all components of the electronics system including battery, power distribution, and fuse box to meet performance requirements while minimizing operational and electrical hazards
- Manufactured and assembled the electronics system by crimping, soldering, and wiring the electronics and components
- Assisted in the overall design, build, programming, and testing an all-terrain base rover capable of wireless remote control and autonomous through design reviews, prototypes, verifications, and tests
- Managed all budget and procurement for purchased materials to remain within department and grant limitations

Battleship Robot - *ME 405: Mechatronics - Term 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

LEADERSHIP & MEMBERSHIP

Boeing Cal Poly Executive Focal Group — **2023 - Present**
Boeing Asian and Pacific Association (BAPA) — **2023 - Present**
PolyCultural Weekend (PCW) - *Operations Committee Head (2022)* — **2020 - 2022**
7x24 Exchange Cal Poly (Mission Critical and Data Centers) - *President (2020-2021)* — **2020 - 2022**
American Society of Mechanical Engineers (ASME) - *Public Relations Director (2020-2021)* — **2020 - 2023**
Japanese Students' Association (JSA) - *Treasurer (2020-2021)* — **2019 - 2023**