

## Adolfo Tec

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EDUCATION	<b>University of California, Berkeley</b> Bachelor of Science, Mechanical Engineering (GPA: 3.16) Coursework: Dynamic Feedback Control Systems, Microprocessor-Based Mechanical Systems, Rigid Body Dynamics, Lagrangian Mechanics, Continuum Mechanics, Advanced Engineering Graphics, Measurement and Instrumentation, Manufacturing and Tolerance	Berkeley, CA Dec. 2017
	<b>Cypress College</b> Pre-Engineering Coursework - Transfer (GPA: 3.83)	Cypress, CA June 2013 - June 2015
SKILLS	<i>Software/Programming:</i> PTC Creo/Pro-E, SolidWorks, AutoCAD, Autodesk 3DS Max, MATLAB, Simulink, LabVIEW, C++, Arduino, Visual Studio, MS Office <i>Equipment:</i> 3-axis Mill, Lathe, 3D Printer, Laser Cutter, CFRP (Carbon Fiber Reinforced Polymer) Fabrication, Electronics <i>Languages:</i> Spanish, French	
EXPERIENCE	<i>Undergraduate Research Assistant</i> Human-Assistive Robotic Technologies/Mechanical Systems Control Lab	Oct. 2016 - July 2017
	<ul style="list-style-type: none"><li>• Conducted research on the efficacy of active-passive exoskeletons to be used for upper limb assistance.</li><li>• Performed system identification and developed mathematical models for stiffness control of pneumatics experiment.</li><li>• Fabricated circuit boards for actuating test rig and performing data acquisition.</li></ul>	
	<i>Suspension/Drivetrain Member</i> UC Berkeley Human Powered Vehicle Team	Feb. 2016 - Dec. 2017
	<ul style="list-style-type: none"><li>• Collaborated with a multidisciplinary engineering team to secure 4th place Overall and 2nd place in Innovation for the ASME HPV Challenge.</li><li>• Partnered with suspension and drivetrain sub-teams to design and manufacture a compact four-bar suspension system enclosed inside the steering knuckle.</li><li>• Consulted for creating realistic finite element simulations for suspension components.</li><li>• Assisted in fabrication of carbon fiber frame and fairing using a wet layup process.</li></ul>	
PROJECTS	<i>Case Steam Traction Engine Animation</i>	Oct. 2017 - Dec. 2017
	<ul style="list-style-type: none"><li>• Created a CAD animation to accurately depict the assembly and mechanics behind a CASE steam traction engine using 3DS Max and Adobe After Effects.</li><li>• Modeled 50 unique parts along with all material properties for rendering production in PTC Creo.</li></ul>	
	<i>Siesta Drink Dispenser</i>	Aug. 2017 - Dec. 2017
	<ul style="list-style-type: none"><li>• Collaborated in a team of five to create a smart drink dispenser and secure the Frank Jarrett Prize for the department's most outstanding project in machine design.</li><li>• Responsible for writing volume control for an array of diaphragm pumps and temperature control for a heating element.</li><li>• Manufactured the final product using bending machines, mills, and water jets.</li></ul>	
	<i>Inverted Pendulum and Magnetic Levitation Controllers</i>	Aug. 2016 - Dec. 2016
	<ul style="list-style-type: none"><li>• Developed equations of motion for a rectilinear dynamic cart and pendulum system and ran simulations in Simulink.</li><li>• Designed and implemented a state feedback controller to stabilize and self erect an inverted pendulum capable of disturbance rejection.</li><li>• Implemented and tuned an analog lead-compensator to levitate a metallic ball.</li></ul>	