Michael DiNardo

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Education

The University of California, Santa Barbara - Bachelor of Science in Mechanical Engineering **Jun 2019 – Jun 2022**

Ventura College, Ventura – Associates in Natural Science and Mathematics **Jan 2016 – May 2019**

Work Experience

(Sep 2022 – Present) Northrop Grumman Space Systems — Industrial Engineer

- Designed critical tooling for manufacturing carbon fiber spacecraft components.
- Created engineering drawings using GD&T to effectively communicate designs to suppliers
- Utilized rapid prototyping methods to prototype designs
- Designed Teamcenter workflows to enhance product development cycles and document control
- Assessed spacecraft manufacturing readiness level using DoD guidelines and created recovery plans to meet customer needs

(Jul 2021 – Dec 2021) Tesla Automotive (Internship) — Mechanical Design Engineer

- Designed high-volume production thermal coolant lines & fasteners for models (S, 3, X, Y) and CyberTruck
- Ensured manufacturability, ergonomics, serviceability, & reliability while routing thermal lines
- Communicated designs to a large set of international suppliers using GD&T, created RFQ's, & performed DFM iterations ensuring functionality & manufacturability of parts
- Developed hose clip durability tests, quick connector leak tests, and vehicle coolant particulate tests leading to 25% stronger firtree clips, leak-free quick connectors at -40C, & design changes in Tesla's next-gen Auto Pilot heat exchanger
- Assisted Vibrational Durability & NVH testing leading to improved reliability and noise isolation of Thermal Bar components

(Nov 2019 – Aug 2020) Rocket Propulsion Laboratory (RPL) at UCSB — Design Engineer

- Designed and prototyped a compact retractable air-brake system for stabilized F-class rocket
- Conducted fluid analysis simulations, collected data, & optimized design to meet strength requirements
- Gained experience in air-brake design, data acquisition and analysis, and design optimization through experimental brake design

(Sep 2005 – Aug 2009) U.S. Army — (25Q) Multi Transmission Systems Operator

- Installed multichannel line-of-site and tropospheric scatter communications system and antennas and Analyzed BIT/BITE diagnostics
- Operated and maintained a secure encrypted line-of-sight radio communications station connecting two military bases in Mosul, Iraq during wartime
- Maintained and operated diesel-electric generators to ensure mission readiness

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Relevant Projects

(Oct 2020) Sonos Speaker Vibration Test Rig Design (UCSB Capstone Project)

- Designed a test rig to characterize the walking behavior of speakers for the speaker company Sonos
- Modular design allows for analysis of relevant variables over a wide range of input frequencies and material/geometric properties
- Test rig allows Sonos to quantify the effects speaker foot material, geometry, location as well as center of mass and transducer orientation have on speaker walking behavior

(Aug 2019) Expanding Solar-Powered Geodesic Dome

- Designed and prototyped an expanding geodesic dome and folding pattern for a rigid solar panel array roof
- Developed a method to quickly design complex expanding truss structures of various geometries by leveraging the computational power of solid works
- Developed and tested origami patterns using Kawasaki's theorem to optimize designs for folding solar panel roof

(Sep 2020) GoPro Max Camera Extended Arm Pendulum Drone Mount

- Designed, tested, and prototyped an extended pendulum GoPro Max 360 camera mount for my personal Mavic 2 drone
- Analyzed and created a design solution for drone instabilities caused by the pendulum nature of the design

Technical Skills

Product, Tooling, & Structural Design, SolidWorks, Creo, Catia, FEA, Rapid Prototyping, MATLAB, Simulink, VBA