

LUCA SACCHETTO

MECHANICAL ENGINEER | www.lucasacchetto.com | (408) 469-3796 | lsacchet@usc.edu | linkedin.com/in/luca-sacchetto

EDUCATION

University of Southern California - Viterbi School of Engineering	Los Angeles, CA
Master's of Science in Mechanical Engineering	August 2025-May 2027
Specialization in Computational Fluid and Solid Mechanics	
University of San Diego - Shiley Marcos School of Engineering	San Diego, CA
Bachelor of Science and Bachelor of Arts in Mechanical Engineering	September 2021-May 2025
Minor in Mathematics, Departmental GPA: 3.93	

WORK EXPERIENCE

General Atomics – Industry Sponsored Project	Poway, CA
MECHANICAL ENGINEERING LEAD	September 2024-May 2025
- Led a cross-disciplinary team of mechanical, radio frequency, and electrical engineers to design a deployable low-frequency antenna system on a rotary-wing drone, coordinating, testing, and validating all system-level requirements - Directed a 9-month lifecycle, facilitating weekly integration of electrical and mechanical subsystems - Reduced mechanical housing weight from 2.4 lbs to 0.8 lbs by designing optimized components in SolidWorks - Executed Abaqus structural and drop-impact analyses, supported by detailed hand calculations, to evaluate landing gear survivability of a 6-ft fall with a factor of safety of 1.62	

University of San Diego	San Diego, CA
PAID RESEARCH ASSISTANT	December 2023-February 2025
- Led research on upcycled carbon fiber composites, integrating microscopy, mechanical testing, and finite element modeling to demonstrate how scrap layout drives defect formation and mechanical performance - Implemented AI-assisted image processing in CellProfiler to quantify voids, scrap gaps, and resin-rich regions across 1,000+ microscopy images, enabling faster and more robust defect analysis - Pioneered lab's first computational modeling framework in Abaqus, automated with Python, to simulate void-driven failures, capturing progressive crack propagation behaviors not observable in physical tests - Publications: 3 material science papers, "Effect of Scrap Size on Processing Defects in Composites Made of Repurposed Prepreg Scraps," published in the American Society for Composites (ASC) and Composites Part C Journal - Presented findings at ASC 2024 as a distinguished undergraduate, strengthening leadership in conveying complex research	

Luca Productions	Cupertino, CA
FREELANCE 3D PRODUCT DESIGNER & ANIMATOR	June 2018-January 2025
- Founded a freelance business in 3D product design, animation, and video editing, scaling it to over \$30,000 in annual revenue - Directed 50+ global clients, overseeing 120 projects from conception to publication while cultivating long-term partnerships - Strong reputation for on-time, audience-engaging creative solutions, achieving over 100 million interactions across clients	

PROJECT

University of San Diego	San Diego, CA
CubeSat Composite Laminate MATLAB Analysis (MENG 494)	December 2024
- Designed lightweight composite CubeSat panels using Classical Laminated Plate Theory to withstand launch loads up to 10g - Selected Carbon/Epoxy IM6G/3501-6 over Carbon/Epoxy (AS4), Kevlar, E-glass, and S-glass by demonstrating a 312% higher longitudinal modulus and 19% greater tensile strength, ensuring suitability for space launch conditions - Programmed a MATLAB algorithm to evaluate 2 million layup sequences under Tsai-Wu and Maximum Strain failure criteria - Identified stacking sequence that outperformed hand-selected designs, balancing stiffness, strength, and failure resistance	

TECHNICAL SKILLS

Core Competencies: Thermal Analysis, Structural Analysis, CFD, FEA, CAD, AI/ML, Automation, Data Analysis, Statistical Modeling, Computational Modeling, Product Design, Robotics, Mechatronics, Composites, SEM Microscopy, Image Processing, Milling, CNC Machining, Prototyping, Hardware Testing, Physics-Based Computational Modeling, Production, GD&T, Preliminary and Critical Design Reports (PDR & CDR), Validation and Verification (V&V) Software: SolidWorks, Abaqus, Ansys, Blender, MATLAB, Python, G-code (CNC), Adobe After Effects, CellProfiler Soft Skills: Team Leader, Communication, Independent Learner, Pitching & Presenting, Creativity, Work Ethic, Problem Solving Languages: English (Fluent), Italian (Fluent), Spanish (Proficient)	
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