ENRIQUE SANCHEZ JR

(626) 513-1984 | Azusa, CA | Sanchez.Enrique325@yahoo.com | U.S. Citizen |Security Clearance: Expired

Education

M.S. Mechanical Engineering **Cal State University, Long Beach | Fall 2026**

Emphasis: Dynamics, Vibration, Control, Robotics

B.S. Mechanical Engineering **Cal State University, Long Beach | Fall 2024**

Coursework: Control System, Modeling of Dynamic Systems, *Robotics,* Fluid Mechanics, Thermodynamics

Certifications

Yellow Belt Course: Lean, Six Sigma, Theory of Constraints July 09, 2019

Green Belt Course: Lean, Six Sigma, Theory of Constraints November 01, 2019

Experience

Mechanical Engineer – Systems Integration Lead (Intern)

American Tenet, San Antonio, TX | May 2025 – Present

- Leading mechanical design for HAVOC-3, a Group 2 UAS fixed-wing drone with 4–6 hour endurance.
- Designed airframe in SolidWorks and ran aerodynamic/structural simulations using ANSYS.
- Integrated EO/IR, LIDAR, and machine-learning V1 payloads into modular system architecture.
- Oversaw prototyping with 3D printing and supervised early-stage launch system testing.

Mechanical Engineer – Axial Flux Motor (Intern)

Performance Axial Flux LLC, San Antonio, TX | May 2025 – Present

- Designed and validated next-gen axial flux electric motor components in Fusion 360 and ANSYS.
- Collaborated on thermal management and system integration; early testing exceeds market benchmarks.
- Contributed to full-cycle development: CAD modeling → simulation → CNC machining → assembly.

United States Marine Corps – Sergeant **San Diego, CA June 2014 – May 2020**

Motor Vehicle and Semitrailer Refueler Operator

- Led multi-level teams of up to 100 personnel, in fast-paced dangerous environments where we successfully completed complex projects while also reducing accident rates
- Organized technical operations in the transportation of military personnel, supplies, and equipment
- Saved over $500,000 by implementing cost-saving initiatives that addressed long-standing problems

Projects/Research

Human Performance and Robotics Laboratory **June 2024 – Current**

- Worked on several research projects: rehabilitation robotics, human-robot interaction. Responsibilities included literature research, design, control of a robotic manipulator, and manuscript proofreading.
- Demonstrated lab projects (motion augmentation system and portable sensors) at Stanford Robotics Center opening which hosted ~1000 participants, including faculty and industry representatives.

Design Project: Offshore Wind Turbine, Long Beach, CA **January 2024 – Dec 2024**

- Led the design and development of a semi-submersible offshore wind turbine prototype, targeting a power output of 1 kW per 48 hours in controlled ocean conditions.
- Conducted CFD and FEA simulations to ensure structural stability under wind speeds of 13 m/s and wave heights of 0.5 m.
- Collaborated on material selection for saltwater resistance and designed a tension leg platform using commercial off-the-shelf components.
- Executed static water testing and prepared for open-water pilot testing to assess power generation, environmental resilience, and structural integrity.
- Managed interdisciplinary teamwork, from SolidWorks design to MATLAB simulations, to optimize buoyancy, power generation, and stability.

Skills

- SolidWorks
- Fusion 360
- Microsoft Office Suite
- Logger Pro
- LabView
- Machining Metals (CNC, Mill, Lathe)
- Soldering
- Matlab
- Welding