Eric G. Bermudez

Mechanical engineer and USMC veteran, with a keen interest in robotics and neurotechnology

Ventura, CA 93003
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EDUCATION

University of California, Berkeley — *B.S. Mechanical Engineering*
August 2022 - December 2024

Ventura Community College — *A.S. General Engineering,*
August 2018 - May 2022

EXPERIENCE

Naval Facilities Engineering and Expeditionary Warfare Center

Mechanical Engineering Intern, June 2022 - August 2022

- Collaborated within a multidisciplinary team to explore the viability of employing autonomous drones for crack detection and surveillance on maritime infrastructures.
- Developed foundational expertise in photogrammetry techniques, specializing in the creation of precise 3D digital replicas of physical structures, with a specific emphasis on pier structures.

Timeless Flooring Company

Operations & Installation Associate, April 2018 - June 2022

- Installed various types of flooring in residential and commercial properties, ensuring high-quality workmanship and customer satisfaction.
- Managed day-to-day warehouse operations, including inventory organization, material handling, and supply tracking.

United States Marine Corps, 1st BN 5th Marines

Motor Vehicle Operator, Corporal (E-4), April 2013 - April 2018

- Operated and maintained various vehicles, including tactical trucks and specialized equipment to support dozens of military operations.
- Led and mentored a team of junior Marines, ensuring adherence to military logistics protocols and enhancing unit readiness and performance.

PROJECTS

Grippy Kasparov — *Chess Playing Robot Arm (UR-10) with Suction Cup Gripper Using Haptic Feedback Search*

- Served as the primary point of contact between the student project team and Berkeley Embodied Dexterity research group, facilitating clear communication, ensuring technical alignment, and allocation of resources.
- Designed and manufactured a custom control circuit with an ESP 32 microcontroller programmed in C++ to operate push/pull operation on suction end effector reliably.

Inverted Pendulum Stabilization Using Feedback Control

- Implemented full state feedback techniques to maintain stability of an inverted pendulum on a motorized cart using sensor information.
- Utilized MatLab + Simulink to simulate controllers before running on hardware, acquire and analyze data, and generate reference signals for the system to follow.

AWARDS

UCB ME103: Experimental Design
- Students Choice for Best Custom Lab Project

Ventura College
- Dean's List Recipient for Outstanding Academics (x8)

United States Marine Corps
- Good Conduct Medal
- Meritorious Mast for Outstanding Logistics Support
- Global War on Terrorism Expeditionary Medal

TECHNICAL SKILLS

Engineering Principles
- Mechanics, Thermodynamics, Material Science, Design Methodologies, Experiment Design, Data Acquisition & Analysis

Computer Aided Design
- SolidWorks, Onshape, Fusion 360, Siemens NX, AutoCad, KiCad

Machine Shop Training
- Lathe, Drill Press, Milling, Power Tools, Laser Cutter, 3D Printing

Programming
- MatLab+Simulink, Python, C++, ROS, Linux

ENGINEERING SOCIETIES

- American Society of Mechanical Engineers, Member
- Society of Hispanic Professional Engineers, Member

INTERESTS

- 3D Printing & Art, Nature, Hiking, Photography, Ballistics Enthusiast