

Technical Projects Portfolio

1. **Quantum Dynamics in Joseph Channels – The Dark Effect Butterfly**

- **Technology:** Quantum Mechanics, Circuit Simulators, VHDL
- **Description:** A project focusing on the quantum dynamics within Josephson junctions. It explores quantum behaviors and effects on circuit simulations, aiming to deepen the understanding of quantum systems in electronics.

2. **LIDAR Quantum RTOS Project**

- **Technology:** LIDAR, RTOS, Quantum Algorithms, Intel i9, Verilog
- **Description:** This project is aimed at optimizing LIDAR systems using Real-Time Operating Systems (RTOS) for sensors and implementing quantum-based algorithms for enhanced obstacle detection. It integrates cutting-edge technologies to improve LIDAR performance and increase system reliability in real-time environments.
- **Public Repository:** LIDAR Quantum RTOS Project

3. **Black Holes Quantum Optics FPGA**

- **Technology:** Quantum Optical Structures, FPGA, Tensor Analysis
- **Description:** A comprehensive guide for implementing quantum optical structures and black hole tensor analysis within FPGA circuits. This project bridges quantum optics with FPGA hardware, exploring the intersection of advanced physics and electronics in computational systems.
- **Public Repository:** Black Holes Quantum Optics FPGA

4. **Space Mission 0989**

- **Technology:** VHDL, Hardware & Software Design
- **Description:** Concept design of components and schematics for spacecraft at both hardware and software levels. The project involves designing critical systems for space exploration and communication, highlighting my ability to bridge theoretical physics with practical engineering.
- **Public Repository:** Space Mission 0989

5. **Zephyr RTOS LIDAR Project**

- **Technology:** Zephyr RTOS, LIDAR, C
- **Description:** This project focuses on implementing LIDAR technology using Zephyr RTOS, optimizing sensor integration, and developing software to ensure real-time performance for autonomous systems. The goal is to enhance the robustness and efficiency of sensor-based applications in various industrial settings.

6. **Architecture and Quantum Algorithms in Airborne Communication Systems**

- **Technology:** Photodetection, Quantum Processors, Data Structures
- **Description:** A project that explores the implementation of quantum algorithms and photodetection systems for airborne communication. It aims to improve the efficiency and reliability of air navigation systems using quantum computing to process large datasets in real-time.
- **Public Repository:** Architecture and Quantum Algorithms in Airborne Communications Systems

