

# Brendan Nellis

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## EDUCATION

### The University of Texas at San Antonio

B.S. in Electrical Engineering concentration in Computer Engineering, GPA: 3.73

San Antonio, TX

Dec 2025

- Relevant Courses: C++ & Data Structures, Systems Programming, Computer Programming for Engineers, Data Communication & Networks, Artificial Intelligence, Machine Learning, Linear Algebra

## TECHNICAL SKILLS

**Concepts:** Computer Vision, Machine Learning, Data Structures, Systems Programming, Hardware Integration, GPU Computing, Autonomous Systems, Real-time Processing

**Languages:** Python, Java, JavaScript, C, C++, HTML, CSS, MATLAB

**Tools & Platforms:** Linux, Ubuntu, Unix, Bash, Git, GitHub, Fusion 360, Fusion Circuit Design

**Frameworks & Libraries:** OpenCV, PyTorch, Keras, NumPy, Pandas, PyQt, CARLA

## EXPERIENCE

### palletPortal

San Antonio, TX

Team Lead & Software Engineer Lead

Jan 2025 – Dec 2025

- Architected autonomous pallet scanning system that increased barcode throughput from 1 to 9+ per pass (900% improvement), reducing manual scanning time by 75% per cycle through optimized data workflow restructuring
- Refactored front-end GUI using PyQt from monolithic embedded design into modular class-based architecture, reducing code duplication by 60% and improving maintenance efficiency for feature iteration
- Optimized application state management using flag-based flow control, extending continuous runtime from 1 to 4+ cycles (400% improvement), enabling sustained 60+ minute operational sessions during stress testing
- Built unified hardware abstraction layer for heterogeneous sensor inputs (2 OpenCV-based cameras + 2 ultrasonic sensors), enabling real-time multi-stream processing at 30+ fps with <50ms latency in production scanning environment

### The University of Texas at San Antonio

San Antonio, TX

Student Assistant I

Jan 2023 – Dec 2025

- Identified and corrected 5% of reporting errors in third-party contractor documentation through validation, review, and data quality control processes prior to submission to the Texas Department of Licensing and Regulation
- Led documentation modernization efforts by digitizing records and storing in the cloud; improving accessibility and version control management across various cross-functional operations teams

### The University of Texas at San Antonio

San Antonio, TX

Undergraduate Researcher

May 2024 – Aug 2024

- Built autonomous driving evaluation system using CARLA simulator with automated computer vision analysis of 5 traffic compliance rules (turn signals, stop position, braking, lane discipline), enabling quantitative driver behavior assessment
- Developed automated scoring logic that generated structured performance metrics from simulated driving behavior, with resulting scores typically ranging from 60-80% across test scenarios

### DHL Supply Chain

San Antonio, TX

Tasker

May 2021 – July 2022

- Designed and deployed FILO inventory management system prioritizing older stock movement, optimizing \$100M+ supply chain flow and reducing inventory aging costs by approximately 30%
- Coordinated inbound logistics for 500k+ ductless mini split units by working with brokers and teams in Houston and Los Angeles to ensure timely container processing
- Optimized daily operations by restructuring staffing model from 8 rotating workers to dedicated 4-person cross-trained team, reducing operational variance by 75%, improving task completion rate from 65% to 95%, and enhancing team accountability