Abraham Garcia

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EDUCATION

University of Nevada, Las Vegas — December 2024
Bachelor of Science in Computer Engineering — GPA: 3.43

TECHNICAL SKILLS

Hardware Tools: ATmega328PB, FPGA, Jetson Nano, ROSMASTER X1, MKR 1000
Languages: C/C++, SystemVerilog, RISC-V, R, Python, Javascript, HTML, CSS
Developer Tools: VS Code, Cadence Virtuoso, LTSpice, Microchip Studio, MARs, Logic, Arduino IDE, Quartus II, ModelSim, Active-HDL, AWS Cloud, KiCAD, ROS, Linux OS, ThingSpeak, Google Apps Script

RELEVANT COURSEWORK

Internet of Things Systems (C/C++):

- Hands-on experience in IoT systems across all levels (1-4), from sensor integration to cloud-based automation using platforms like ThingSpeak and IFTTT.
- Designed end-to-end IoT solutions, including embedded systems, MQTT protocols, and real-world applications.

Digital Electronics (Cadence Virtuoso):

- Designed and simulated digital ICs using Cadence Virtuoso, focusing on MOSFET operation, parasitics, and logic blocks like inverters and NAND gates.
- Optimized circuit performance through timing, feedback loops, signal filtering, and CMOS processes for efficient digital design.

PROJECTS

HoloTouch — Jan. 2024 - Dec. 2024

- Lead a team of 4 in brainstorming, research, planning, and executing projects, ensuring timely and successful outcomes.
- Implemented a Jetson Nano-based system with YOLOv5 for real-time hand gesture detection, allowing mouse control on a computer with output displayed on a hologram.
- Configured the Jetson Nano to host YOLOv5 code by setting up a Python virtual environment, installing required dependencies, and deploying the model for hand gesture recognition.

Mobile Robot — Aug. 2024 - Dec. 2024

- Co-developed a 3-layer autonomous rover integrating LIDAR, Jetson Nano, and ROS controller, achieving 100% functionality across mapping, localization, and navigation tasks.
- Designed and tested the rover in both Rviz/Gazebo simulations and real-world environments, executing over 20 ROS commands to ensure seamless teleoperation and obstacle avoidance.
- Successfully created and utilized custom URDF models, enabling precise navigation with collision avoidance and accurately mapping a 20x20 ft room.

Ambiance Monitoring and Music Recommendation System — Aug. 2024 - Dec. 2024

- Developed an IoT system integrating Arduino MKR1000 nodes, TMP36 temperature and HPP801A031 humidity sensors, and ThingSpeak cloud services to analyze real-time weather data.
- Designed and implemented an MQTT-based communication network, processing over 50 data points and triggering Spotify playlists via MATLAB Analysis and IFTTT Webhooks.

WORK EXPERIENCE

Student Worker - UNLV Social Work Office, Las Vegas, NV — Jan 2023 - Jan 2024

- Pioneered a transcription method, cutting meeting minutes processing time from 2 days to 4 hours, improving efficiency and communication.
- Processed 15 applications daily, reviewing resumes, recommendations, and transcripts for admissions.
- Managed confidential documents, ensuring regulatory compliance to protect sensitive information and institutional security.

Stock/Shop Associate - Amazon, Las Vegas, NV — May 2020 - Sep. 2022

- Unpacked and distributed shipments at a rate of 230 items per hour to proper warehouse locations.
- Led a team of 4 in closing shifts, coordinating finishing orders, cleaning, restocking, and assisting delivery drivers.
- Ensured timely completion of orders to meet a 140 pick rate per hour, guaranteeing on-time customer deliveries.

HONORS AND INVOLVEMENT

- **Dean's Honor List** — Jan. 2024 - May 2024
- **Theta Tau - Theta Zeta**: Scribe — Aug. 2022 - June 2024
- **Languages:** English (native), Spanish (native)