# Javier Irizarry-Delgado

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 github.com/Shxl2

## Education

**University of Florida** *Fall 2024 - Spring 2028*
*BS in Electrical Engineering*

- GPA: 4.0
- Benacquisto Scholarship
- STEPUP 30 Program Scholar
- **Relevant Coursework:** Calculus 3, Physics 2

**American Heritage Schools - Broward Campus** *Fall 2020 - Spring 2024*

- GPA: 5.41
- Engineering and Computer Science track

## Skills and Abilities

**Programming Languages:** Java, C++, Python, LaTeX
**3D Modeling:** Onshape, Fusion 360, Inventor
**Languages:** English, Spanish

## Experience

**Robotics Mentor** *Gainesville, FL Fall 2024*
*P.K. Yonge Developmental Research School* *- Present*

- FIRST Robotics Competition Team 4118: Roaring Riptide
- Taught high school students how to write robot programs in Java and wire FRC robots
- Applicable to manufacturing and design as it involves teaching and applying critical skills in automation and robotics, which are essential for modern manufacturing processes.
- Developed a strong foundation in troubleshooting, system integration, and the practical application of robotics in automated production lines.

**Robotics Summer Camp Counselor** *Plantation, FL*
*American Heritage Schools - Broward Campus* *Summer 2021 - 2024*

- Taught campers to code in Java, and wire motors, sensors, and microcontrollers to summer camp robots, for an in-house robotics competition. Fixed electrical issues during competitions.
- Relevant to manufacturing and design as it involves teaching and applying essential skills in automation and robotics.
- Developed a strong foundation in integrating and troubleshooting complex systems, which are critical skills in modern manufacturing environments.

**Volunteer (Innovation Lab)** *Youngsville, NC*
*Eaton Corporation* *Summer 2022*

- Developed an image processing solution to enhance quality and reduce human error.
- Utilized a webcam to create a system that identifies incorrect battery terminal installations. The system detects if the operator is about to connect the positive terminal (Red) to the negative terminal (Black), preventing potential thermal events in UPS device batteries.
- Created an Industrial Engineering simulation using Legos.
- Designed a production line model that prioritizes efficiency and cost-effectiveness, incorporating quality and safety measures.

## Extracurricular Activities

**Machine Intelligence Lab - Member**  *Gainesville, FL*
*University of Florida*  *Fall 2024 - Present*

- Programmed autonomous systems in ROS for the Maritime RobotX challenge.
- Directly applicable to manufacturing and design as it involves creating sophisticated software for autonomous systems.
- Gained expertise in integrating various sensors, actuators, and control algorithms, which are essential for designing and implementing automated manufacturing systems.
- Honed skills in system integration, real- time processing, and troubleshooting, all of which are critical for optimizing production lines and ensuring efficient, reliable operations in a manufacturing environment.

**Robotics - Electrical Director**  *Plantation, FL*
*American Heritage Schools - Broward Campus*  *Fall 2022 - Spring 2024*

- FIRST Robotics Competition Team 2383
- Programmed the robot (Java and C++) using a finite state machine, and wired the components of the robot (motors, motor controllers, microcontrollers, sensors). Fixed electrical issues during competition.
- Directly applicable to manufacturing and design as it involves developing and implementing control systems for automated machinery. The skills in programming and wiring are essential for designing efficient and reliable production systems, ensuring smooth operation and quick troubleshooting of any issues that arise during manufacturing processes.

## Projects

**Simultaneous Localization and Mapping (SLAM) for FIRST Robotics Competition Robots**  *[github.com/Ninjineers-2383/SLAM-Server](https://github.com/Ninjineers-2383/SLAM-Server)* ⬈

- Developed a java program for SLAM in Java using April tags as landmarks, which ran on an external coprocessor (Beelink mini pc).
- Implemented a program to time-sync vision measurements.
- Highly relevant to manufacturing and design as it involves creating advanced navigation and mapping systems for autonomous robots. These skills are essential for developing automated guided vehicles (AGVs) and robotic systems that can navigate complex manufacturing environments, improving efficiency and reducing the need for manual intervention.

## Awards

- National Merit Finalist
- National Hispanic Recognition Scholar
- FIRST Robotics Competition Dean's List Semifinalist 2023