

DAE JUNG MARTINS CRUZ

Newark, NJ

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EDUCATION

New Jersey Institute of Technology, Newark

May 2025

B.S. in Electrical Engineering

Overall GPA: 3.9/4.0

EXPERIENCE

NJIT

September 2024 - Present

Research Assistant

Newark, NJ

- Developed pneumatic controller for microfluidic devices.
- Designed solenoid driver printed circuit board.
- Built controller board utilizing RP2040.
- Created and ran SPICE simulations for characterizing solenoid driver board
- Created sense circuit board to monitor voltages and currents generated from solenoid driver board.
- Assembled circuit boards.

Veloso Industries Plastic Molding Company

June 2022 - August 2022

Intern

Linden, NJ

- Designed and developed pick and place system
- Programmed Programmable Logic Controllers (PLCs) to automate factory processes.
- Created desktop applications to interface with PLCs using the MODBUS protocol.
- Conducted material cost analysis and detailed budget presentations for client proposals.

TECHNICAL STRENGTHS

Computer Languages

C/C++, Python, C#, SPICE

Protocols

MODBUS, RS-232, USB

Tools

Git, KiCad, Altium, Multisim, QSpice, LTSpice

Hardware

Raspberry Pi RP2040, MSP430, STM32, ESP32, WAGO PLC

PUBLICATIONS

Common Food-Wrap Film as a Cost-Effective and Readily Available Alternative to Thermoplastic Polyurethane (Tpu) Membranes for Microfluidics On-Chip Valves and Pumps