Trevor van Loosbroek

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Technical Skills

Software Applications: Allen Bradley Studio 5000, In-Sight Explorer, Excel, AutoCAD, Fusion360, Visual Studio, Arduino IDE

Programming: React, Javascript, HTML, CSS, Ladder Logic, G Codes, CNC Programing, C, C++, Python, VBscript, Java, MySQL, VHDL

Skills: Networking, 6-sigma Green Belt, Electrical Diagrams, Mechanical Diagrams, Troubleshooting, Manufacturing

Work Experience

Product Development Engineer | Ford Motor Company **January 2023 – Present**

- Led a team as a test engineer, created test setups, and collaborated with the design team on Design Verification Plan (DVP) using Excel for data analysis
- ***Led the design of a high current relay PCB*** by creating SMD footprints, electrical layout, and routing, resulting in improved manufacturing efficiency
- ***Analyzed product financials*** using Excel to develop a cost reduction strategy, successfully ***reducing costs by 40%*** from the original

Automation/Controls Engineer | Magna International **May 2024 – Present**

- On-site root cause expert on 2nd shift. Worked with technicians and IT on troubleshooting new/unseen problems in the manufacturing line, with tight time constraints from the customer.
- ***Lead developer of*** a shift report ***web application, built in React***. All shift repairs became stored in a SQL database. Technicians could input repairs and team lead could edit and approve repairs.
- Launched new machines. Configuring machine in SQL database, routing network cable and 480/120V drops, working with IT on PLC to OPC server communication.
- ***Personal*** continuous ***improvements*** effort ***saved the company over $4,000/month***. By switching from expensive vendor hardware to 3D printed self-produced items.

Automation/Controls Engineer | Ford Motor Company **March 2022 – January 2023 (Plant closure)**

- Analyze facility operational data, ***using root cause analysis*** and 6-sigma, to locate faulty lower stop arm, ***reducing scrap rate by 90%***.

Independent Engineering Projects

Embedded Convolutional Neural Network for Digit Identification

- Convolutional neural network trained on TensorFlow using MNIST dataset and developed for FPGA. Systolic array hardware was designed to achieve high throughput of 50,000 images per second with 97.75% accuracy.

ADAS/Smart Scooter (Software and Hardware):

- Created driver assist for city electric scooter. Assist included auto headlight, auto bell tone, high-speed collision warning, collision reporting, water detection, tamper detection. C++ running on embedded ESP32 hardware with SX1509 I/O expander. Communication over I2C.

“For Sale By Owner” Web Scalper (Software – Python)

- Scalps data from popular online real estate database using parsed GET response. A JSON file is created containing newly listed FSBO homes. The data is organized with price, picture, address, and owner contact number. Newly added homes are emailed as a list.

Education

Oakland University

Bachelor of Science, Electrical Engineering (GPA: 3.59) Graduated April 2022

Bachelor of Science, Computer Engineering (GPA: 3.59) Graduated April 2022