Nicholas Anthony Rombach

Product Design & Manufacturing Engineer
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Objective: Experienced Design Engineer seeking an automation or design engineering position in order to further develop my skills and knowledge while utilizing multiple engineering disciplines.

Education:

(2014 — 2019) Grand Valley State University— B.S.E. in Product Design & Manufacturing Engineering, ABET accredited
(2010 — 2014) Hart High School Diploma — Advanced Placement: Calculus, Chemistry, & English; Honors Courses

Work Experience

UACJ Automotive Whitehall Industries, Inc. (October 2019 – October 2021)

- Design Engineer responsible for 'cradle-to-grave' design of production/prototype machines and fixtures
- Launched an Excel-based Automated Bill of Materials using Microsoft's Visual Basic and SolidWorks API
- Presented theoretical calculations and simulation results for proposed machine builds and tooling designs
- Manufactured production tooling parts using both manual, and CNC vertical milling machines

Viant Medical (January 2018 – September 2019)

- Engineering Intern published work instructions, and equipment operating instructions for new products
- Routed Document Change Orders and Engineering Change Notices in compliance with ISO 13485
- Designed zero-cost, rapid prototyping methods and facilitated test method validations

Johnson Controls' Hart & Cooley, Inc. (July 2017 - December 2017)

- Intern Technical II created engineering drawings for HVAC equipment using Autodesk Inventor 2013
- Designed both 2D and 3D CAD models to meet customer specifications for HeatFab and Milcor

Michigan Foam Products, Inc. (Fall 2016)

- Engineering Technician Intern manufactured expanded polystyrene foam using low-cost methods
- Utilized SolidWorks 2016 to run both zero-scrap, and single-wire approaches for material removal
- Implemented pre-production part approval processes (PPAPs), routed parts, and conducted time studies

Grand Valley State University Engineering Projects

Heavy Lift Assist Device for Trans-Matic, Inc.

- Designed, sourced, and wired an external safety control system for an off-the-shelf linear actuator
- Used one-half of the budgeted amount to solve an industry-wide safety problem
- Build and assembled in-house along with four teammates

Allen Bradley Programmable Logic Controller Drill Machine

- Used RSLogix5000 to create a series of operations that physically emulated an automated drill station
- Programmed PanelView Plus HMI using Factory Talk View Studio Machine Edition

Four Degree of Freedom Robot

- Used inverse kinematics, HT and Jacobian matrices, DH tables to map position and orientation
- Programmed pick-and-place robot using both C, and Python programming languages (serial comms)

Wireless Automated Robots

- Worked as the final robot design coordinator using SolidWorks 2016 for 'maze-robot' project
- Applied binary state-machine concept (i.e., controls both traffic lights and vending machines alike)
- Built circuits; tuned microcontroller; C/Python programming; PID feedback control

Equipment and Software Experience

Casting, BenchMill & Haas CNCs, manual mill, lathe, SolidWorks/SolidCAM 2018-2022, Autodesk Inventor 2013, CATIA V5, Xilinx, Python, C, and LabView programming, variable frequency drive, RSLogix5000 (for AB PLC/PAC), Factory Talk View Studio Machine Edition, PanelView Plus, FANUC pendant programming, pneumatics hydraulics, Raspberry Pi, Arduino, additive manufacturing, H-Bridge, encoders, transducers, servos, gearboxes, GMAW, SMAW, TIG, ultrasonic welding, oxyacetylene, shell, Linux, Java, Solidity, Visual Studio Code