Ingeborg Achebe-Lindqvist

Mechatronics Engineer

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SUMMARY

Mechatronics engineer with 6 years designing automated packaging lines and a surgical positioning device. Led the servo retrofit of a carton erector that raised output from 45 to 70 cartons a minute, and wrote embedded motor control firmware for a device cleared for clinical trials. Moves comfortably between CAD, wiring diagrams and control code.

EXPERIENCE

Mechatronics Engineer — Northlake Cartonworks Machinery

Minneapolis, MN · May 2022 – Present

- Led the servo retrofit of a mechanical-cam carton erector, raising output from 45 to 70 cartons a minute and cutting changeover from 40 minutes to 12.
- Designed the motion profiles and PLC logic for a 4-axis pick-and-place cell on Rockwell ControlLogix, holding placement accuracy within 0.3 mm.
- Added vision-based reject detection with a Cognex camera that caught 98% of misfolded cartons in factory acceptance tests across 3,000 samples.
- Cut field service calls on 22 installed machines by 35% by adding sensor diagnostics and HMI fault screens that operators could clear without a technician.

Electromechanical Engineer — Hollowbrook Surgical Systems

St. Paul, MN · Jul 2020 – Apr 2022

- Wrote STM32 firmware for a 3-axis surgical arm positioner using field-oriented control, reaching repeatability of 0.05 mm on the bench.
- Designed the encoder and limit-switch wiring harness for 6 prototype units, passing IEC 60601 pre-compliance testing on the first attempt.
- Reduced motor driver board cost by 22% by consolidating 2 boards into 1 with the electronics vendor.

SKILLS

PLC and motion control: Rockwell ControlLogix, Siemens TIA Portal, structured text, ladder logic, servo tuning

Embedded firmware: C, C++, STM32, FreeRTOS, CAN, field-oriented control

Mechanical and electrical: SolidWorks, GD&T, EPLAN, motor and gearbox sizing, sensor selection

Tools: MATLAB/Simulink, Python, Cognex In-Sight, oscilloscopes, logic analyzers

CERTIFICATIONS

Certified SOLIDWORKS Professional (CSWP)

EDUCATION

B.S. Mechatronics Engineering, Minnesota State University, Mankato, 2020

Fictional example by FindAJobAI: the person, employers and numbers are invented.