Ingrid Halvorsen-Mbatha

Robotics Engineer
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SUMMARY

Robotics engineer with 6 years building industrial robot cells and mobile picking robots, from motion planning and calibration to commissioning on customer sites. Works in C++, Python and ROS 2 with UR, FANUC and ABB arms. Raised pick success on a fleet of 40 mobile manipulators from 91% to 98.6% and cut cell cycle time by 22%.

EXPERIENCE

Robotics Engineer — Steelhaven Autonomy

Pittsburgh, PA · May 2022 – Present

- Own grasp planning for a fleet of 40 mobile picking robots in 3 customer warehouses, lifting pick success from 91% to 98.6% over 18 months.
- Rewrote the hand-eye calibration routine in C++ with ROS 2, cutting calibration time per robot from 3 hours to 25 minutes.
- Built a replay tool that reruns 2,000 logged failed picks in simulation each night, catching 14 regressions before release.
- Led on-site commissioning of 12 robots at a grocery distribution center, reaching 97% uptime in the first 6 weeks.

Automation Engineer — Corrigan Industrial Integrators

Cleveland, OH · Jul 2019 – Apr 2022

- Designed and programmed 9 FANUC and ABB welding and machine tending cells for automotive suppliers, each delivered within 2 weeks of plan.
- Cut cycle time on a 2-robot machine tending cell by 22% by reordering moves and adding a buffer fixture.
- Wrote PLC and safety logic with light curtains and area scanners for 9 cells, all passing customer risk assessments on first review.

SKILLS

Robotics software: ROS 2, MoveIt, motion planning, inverse kinematics, Gazebo and Isaac Sim, behavior trees

Perception: OpenCV, point cloud processing (PCL), hand-eye calibration, depth cameras, AprilTags

Programming: C++17, Python, Git, Docker, Linux, CI with unit and simulation tests

Industrial: FANUC, ABB and UR arms, Allen-Bradley PLCs, ISO 10218 safety, risk assessments

EDUCATION

M.S. Robotics, Carnegie Mellon University, 2019

B.S. Mechanical Engineering, Purdue University, 2017

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