Dean Fortier

- I am a robotics software engineer with broad experience in robot hardware configuration, perception, control, and robot learning.
- My experience ranges from academia and R&D consultancy to production software, middleware, and cloud solutions.
- Robotics is hands down the most rewarding field (when things are actually working 💪)

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EXPERIENCE

Microsoft, Redmond WA / Robotics Research Engineer (Contract)
OCT 2024–PRESENT
- Developed the hardware, data collection, control and assisted in training and integration for Interactive BusyBox demo - an agentic system consisting of a voice agent front end for interacting with a user, a VLM to observe the state of the BusyBox, and a VLA to control bimanual manipulation of a robot.
- First authored a paper on the Busybox - presented work at CoRL in Korea
- Assist in all phases of developing a VLA (Vision Language Action model). Owned data collection and processing for multiple robots, Evaluation Rollouts, Training ablations against different SOTA models.

Optitrack, Remote / Software Engineer 2
APR 2023–OCT 2024
- Owner of ROS2 plugin for Optitrack. I created the interface and demos for ROS2 as well as adding support for ARM devices. ***C++***
- With motion capture data, I was the owner for our product *MotiveBatchProcessor* which provides tools to process takes simultaneously. ***C++/ C#***
- Worked in a team to develop the take processing system for next-gen Motive software. ***Python***
- Responsible for CICD pipeline using github actions and self hosted servers for system testing next-gen Motive project ***Python Testing/ Github CICD***

Amazon Scout, Seattle WA / Robotics SDE L4
APR 2022–NOV 2022
- Supported software for mobile robot homes (dispensers) consisting of: large data offload from robots to S3, monitoring docked robots, software updates to dispensers and robots.
  - **Track Operational Misses** - in seeing data loss due to human error, I created a dashboard, AWS QuickSight, that tracks data dropout so we can better support operations teams ***Python/ Linux/ AWS***
  - **Improved Robot Heartbeat** - In order to better track if a robot has docked I introduced a heartbeat on each robot compute to the dispenser's server using AWS Lambda and CloudWatch ***Python/ Linux/ AWS***

EDUCATION

University of Florida
Electrical Engineering
FALL 2014 - SPRING 2019

Data Pipelines with TensorFlow Data Services - 2024

Udacity Deep Learning Nanodegree - 2021

Udacity Robotics Software Engineer Nanodegree - 2020

SKILLS

C++	Python
Computer Vision	PyTorch
Sensor Fusion	ROS
Motion Capture	Linux
C#/Managed C++	Docker
Azure	AWS

HOBBIES
Music/ Festivals
Photography
Biking
Sitting next to Camp Fires

Fresh Consulting, Bellevue WA / Robotics Engineer
JUN 2019–APR 2022
- Worked as a robotics engineer in teams ranging from 2 to 10:
    - **Miso Robotics** - Consulted design solutions for Miso and Created Software adaption layer to support a Yaskawa 6DOF robot arm for Flippy 2 robot system for automated cooking. *C++/ Python/ ROS*
    - **Microsoft** - Developed a puck tracking to operate 200 Hz and gantry controller for an autonomous air hockey table *C++/ Computer Vision/ CUDA/ Control Theory*
    - **Ventec** - Developed test automation for ventilators capable of testing up to 24 ventilators simultaneously *Python/ RTOS Concepts/ SQL*
    - **John Deere** - Designed and implemented 6-camera calibration method used for birds-eye view perspective at 30 FPS *C++/ Computer Vision/ Networking*
    - **United Rentals** - Added Camera localization to the overall localization stack, Deployed robots and Trained warehouse workers to use our robot. *ROS/ Networking/ Computer Vision*
    - **Hyundai** - Researched using Reinforcement Learning control in a wheel-quadruped robot and implemented a simulated prototype. *ROS2/ Simulation/ RL/ Docker*
    - **SBQuantum** - Deployed cost-effective outdoor AGV capable of surveying 1 km^2 using GPS, IMU, and wheel odometry *ROS/ Sensor Fusion/ Docker*

FOCUS Lab University of Florida / Research Assistant
OCT 2018– FEB 2019
- Designed a test setup and Created an Abstraction layer to control MEMs Mirror reflecting a laser beam *Python*
- Mirror and Camera were co-located on an optical table. Camera server node would request point scan at a particular pixel coordinate via UDP. Given Camera intrinsics and sensor size, the client (mirror) node would direct Mirror angle at desired pixel location *Computer Vision/ C++*

Magic Leap, Fort Lauderdale FL / Electrical Hardware Intern
MAY 2018 – AUG 2018
- Designed test procedure to precisely find Magnetic Sensitivity of EM coils for 6DoF tracking *Python/ LabView/ Oscilloscope/ Signal Generator/ Amp*
- Verified DisplayPort 1.4 physical compliance to test cables' signal integrity *LabView/ Oscilloscope*