Dean Fortier

- I am a robotics software engineer who specializes in perception and sensor fusion for robot localization. In working in robotic systems I thrive in proposing and executing cost effective solutions alongside Systems, Electrical, Mechanical, and Cloud engineers. -

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EXPERIENCE

Optitrack, Remote / Software Engineer 2
APR 2023–present
- 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 product owner for our product MotiveBatchProcessor which processes recorded motion capture data. ***C++/ C#***
- Worked in a team to develop portions of the take processing system for nex-gen Motive software. ***Python***
- Responsible for CICD pipeline using github actions and self hosted servers for 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, softwares updates to dispensers and robots.
  - **Track Operational Misses** - in seeing data loss due to human error, I created plans for 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***

Fresh Consulting, Seattle 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***

EDUCATION

University of Florida
Electrical Engineering
FALL 2014 - SPRING 2019

Data Pipelines with TensorFlow Data Services - 2024

Udacity Robotics Software Engineer Nanodegree - 2020

Udacity Deep Learning Nanodegree - 2021

SKILLS

C++	Python
C#/Managed C++	ROS
Computer Vision	RTOS
Sensor Fusion	Linux
PCB Routing	Docker
Motion Capture	ML
ML data pipelines	CUDA

PROJECTS (see github)

- LED fan persistence of vision
- EV Vanagon

HOBBIES

Music/ Festivals
Photography
Sitting next to Camp Fires
Bouldering

- **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***