WYATT JORDAN - SOFTWARE ENGINEER

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Overview

If you're looking for a robotics or embedded software developer I might just be your match. I've spent the past four years working on robots at Amazon's product lab where "that's not my area of expertise" is never an excuse. It's been awesome! An upcoming move to Worcester, MA is driving my search for new opportunities in the Boston area or remote roles. If you like what you see below reach out via email and let's have a chat!

Experience

SDE II | AMAZON LAB126, CONSUMER ROBOTICS – NEXT-GEN PRODUCT DEC 2022 – PRESENT

- Developed automated path planning and data collection for hand-eye calibration of a Franka Research 3 manipulator (video). Calculated, verified, and iteratively improved calibration. (MoveIt2, Python, ROS2, OpenCV)
- Mentored and managed junior developers while leading the design of an automated cloud-based simulation framework (video), enabling applied scientists to efficiently evaluate, refine, and validate their manipulation algorithms. (Isaac Sim, AWS EC2, AWS ECR, AWS VPC, Docker, ROS2, Open Motion Planning Library, CuMotion)
- Developed cloud deployment pipelines for Nvidia powered docker containers (Typescript, AWS CDK, Docker)
- Researched and selected sensors for ground truth perception satisfying cross-functional team requirements.
- Integrated and time-synchronized an OptiTrack IR camera system with robotic manipulators, providing ground truth data for evaluating sim-to-real gaps. (C++, Natnet SDK, Motive, ROS2, Precision Time Protocol)

SDE I | AMAZON LAB126, CONSUMER ROBOTICS – ASTRO PRODUCT FEB 2021 - DEC 2022

- Developed critical, on-boot safety software which measured sensor hazards and locked-out faulty devices thereby ensuring customer safety. (C++, ROS, Linux Filesystem)
- Maintained ROS C++ behavior tree libraries for multi-process ownership of compute and sensing resources.
- Developed multithreaded C++ applications for device self-monitoring, metrics, and recovery mechanisms.
- Migrated device metrics between cloud platforms, minimized and justified metrics costs, developed dashboards and automated metric analysis in AWS. (SQL, AWS S3, boto3)
- Diagnosed hundreds of issues with full system logs from all software components on a consumer robot platform.
- Patched, tested, and shipped software solutions within our monthly OTA update deadlines while satisfying cross-team APIs and stability between highly interdependent robotic software modules.
- Wrote test plans, conducted analysis, and developed automation scripts for QA across time zones.

SOFTWARE ENG | ARMY RESEARCH LAB, AUTONOMOUS SYSTEMS MAY 2019 - FEB 2021

- Developed Docker containers for neural networks to process event camera data in real-time via ROS2 (model).
- Labeled data and wrote supporting Python scripts for an object pose detection neural network (publication).
- Configured, networked and time synchronized a collection of compute nodes and sensors on robotics platforms.
- Improved C++ sensor drivers for compatibility and additional functionality with existing robotics platforms.

ROBOTICS DEVELOPER | GROVE CITY COLLEGE, SENIOR PROJECT **AUG 2018 - MAY 2019**

- Implemented lidar processing algorithms for environment mapping, obstacle detection, localization (videos)
- Designed a robotics platform on a budget with the necessary compute and sensing capabilities (github).
- Supervised a team of multi-disciplinary students in a fully autonomous robotics platform design cycle.
- Developed, tuned, and tested motor control loops and sensor data streams on an embedded Linux system.
- Completed various elective classes in robotics manipulation, mobility, sensing, algorithms, and PCB design.

OAK RIDGE RESEARCH INTERN | ARMY RESEARCH LAB **MAY 2018 – AUG 2018**

- Developed software for tracking multiple dynamic objects with LIDAR data in unknown environments using efficient 3D data structures including octrees and ray-tracing (ROS, C++, Point Cloud Library / PCL)
- Implemented a Kalman filter for probabilistic object tracking, matching, and prediction (ROS, C++, Eigen)

Education

B.S. IN ELECTRICAL ENGINEERING | GROVE CITY COLLEGE **MAY 2019**

Minors in Robotics, Computer Science. Magna Cum Laude, Trustee Fellow Scholar.

Skills & Abilities

- C++, C, Python, SQL
- ROS/ROS2 and related tools
- AWS EC2, S3, ECR, VPC, CDK
- Linux, Docker, git
- Lidar, IR Motion Capture, Depth Cameras
- Point Cloud Library, Kalman Filters
- Code documentation and review
- Oscilloscopes, JTAG, bench equipment

Activities and Interests

Mountain biking, surfing, running, board games, reading