WYATT JORDAN - SOFTWARE ENGINEER

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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. Calculated, verified, and iteratively improved calibration results. (MoveIt2, Python, ROS2, OpenCV)
· Mentored and managed junior developers while leading the design of an automated cloud-based simulation framework, enabling senior applied scientists to efficiently evaluate, refine, and validate their manipulation algorithms. (AWS EC2, AWS VPC, ROS2, Isaac Sim, Open Motion Planning Library, CuMotion)
· Developed cloud deployment pipelines of docker containers (Typescript, AWS CDK, Docker)
· Integrated and PTP time-synchronized an OptiTrack IR camera system with robotic manipulators, providing ground truth data for evaluating sim-to-real gaps. (PTP, Motive, ROS2)

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

· Developed critical safety software with C++ in ROS which measured sensor hazards and locked-out unsafe devices thereby ensuring customer safety.
· 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, developed dashboards and automated metric analysis in AWS.
· Diagnosed hundreds of issues with full system logs from all software components on a consumer robot platform.
· Designed optimal solutions across teams and APIs with highly interdependent robotic software modules.
· Debugged, patched, tested, and shipped software solutions within our monthly OTA update deadlines.
· Wrote test plans, conducted analysis, and developed automation scripts for QA across time zones.

SOFTWARE ENG | ARMY RESEARCH LAB, AUTONOMOUS SYSTEMS   MAY 2019 - NOV 2020

· Developed Docker containers for neural networks to process sensor data in real-time via ROS.
· Labeled data and wrote supporting Python scripts for an object pose detection neural network (publication).
· Configured precision time protocol synchronization across networked Linux machines and sensors.
· Improved C++ sensor drivers for compatibility and additional functionality with existing robotics platforms.

ROBOTICS DEVELOPER | GROVE CITY COLLEGE, SENIOR PROJECT   FEB 2021 - DEC 2022

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

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

· Implemented a Kalman filter in ROS C++ for probabilistic object tracking, matching, and prediction.
· Designed a C++ package for tracking multiple moving objects from LIDAR data in unknown environments.
· Applied the Point Cloud library computational methods including ray tracing, octrees.

Education

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

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