Jonathan Meyer

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Robotics Software Engineer

Experience

Fox Robotics	Austin, TX	*Staff Software Engineer*	*January 2021	September 2021*
Fox Robotics	Austin, TX	*Senior Software Engineer*	*October 2018	January 2021*

- Led efforts to roboticize off-the-shelf forklift chassis for Fox's first two generations of products.
- Built and owned the design and software for the hardware platform including control systems, software drivers, safety systems, and infrastructure for testing, calibration, and commissioning.
- Contributed to world modeling, collision checking, and path planning components of the autonomy stack to enable smooth, safe navigation in tight quarters.
- Mentored other engineers and technicians.

Southwest Research Institute San Antonio, TX *Research Engineer* *January 2015 | October 2018*

- Spearheaded the development of "Scan-N-Plan" software for on-the-fly perception and process planning with robot arms, leading to millions of dollars in follow-on projects.
- Greatly improved the performance (quality & runtime) of ROS-I motion planning stack enabling better utilization of high degree-of-freedom hardware & processes.
- Introduced software developers and automation engineers to the ROS & ROS-Industrial software frameworks by teaching training courses all over the United States.

Projects

Open Source Contributions ROS, Formal Methods, Calibration, ...   *github.com/jmeyer1292*

I try to leave the infrastructure of my current domain better than I found it:

- Created a lightweight framework for common robotic calibration needs such as finding a camera relative to a robotic arm.
- Created a GPU accelerated point cloud simulator based on OpenGL depth buffers.
- Built a static analysis tool for PLC safety programs that uses the Z3 SMT solver to prove safety and liveness assertions.

Education

University of Oklahoma	Norman, OK
MS Mechanical Engineering, GPA: 4.0	*2012	2014*
BS Mechanical Engineering, GPA: 3.95	*2008	2012*

Skills

Programming Languages C++, Python, Rust (Intermediate)

Robotics Path Planning, Control Systems, Calibration, 3D Perception

Tools ROS, Protobufs & GRPC, Ceres (Optimization), Bazel, Socket Networking, Linux, Git

Automation PLCs, Basic Electrical Diagnostics, CAN, Risk Assessment, Safety System Design