Josh Oberhaus

PERCEPTION SOFTWARE ENGINEER

✉ me@joshoberhaus.com | 🏠 www.joshoberhaus.com | joshOberhaus | joshoberhaus

Versatile and driven software engineer with diverse experience in the automotive sector and a passion for improving the safety and reliability of autonomous systems.

Experience

Robert Bosch LLC   *Plymouth, MI*

TECHNICAL EXPERT - PERCEPTION   *Jan. 2024 - Present*

- Served as a technical lead for a global platform perception software team.

SENIOR SOFTWARE ENGINEER - PERCEPTION   *Sep. 2018 - Jan. 2024*

- Served as a technical lead for a global platform perception software team.
- Developed Python-based perception KPI Tool for single target tracking analysis, integrated and automated its execution as a Jenkins pipeline.
- Increased performance of corner radar-based perception (C++) by identifying and addressing assumptions made towards front-facing radars.
- Adapted MATLAB-based object type classifier training tool for corner use-cases.
- Reworked object type classification feature calculations to be more agnostic of sensor-mounting, reducing missed-target scenarios.
- Developed several new features for MATLAB-based perception visualization tooling, including projection of the components of the Kalman filter, and automation abilities.
- Tripled Jenkins simulation throughput through determining bottleneck in execution.

Bosch Engineering GmbH   *Farmington Hills, MI*

SOFTWARE ENGINEER - PREDICTIVE SAFETY SYSTEMS   *Apr. 2016 - Sep. 2018*

- Served as the Predictive Safety System (AEB, FCW, System Conditioning) component responsible for a strategic customer responsible.
- Developed Python-based data mining tools to open new opportunities in evaluating data sets from endurance runs.
- Introduced automated tooling to enable customer-friendly overviews for endurance run points of interest.
- Led labelling sessions with the customer, explaining and addressing concerns with any activations.

SOFTWARE ENGINEER   *Apr. 2012 - Apr. 2016*

- Developed unique solution for criticality classification for marine radar collision warning applications, modified tracking and localization logic to be less dependent on traffic-scenes.
- Designed and implemented Python-based code generation tool chain to allow a Bosch-created library to be integrated into a third-party controller.
- Supported customers on site in solving critical plant issues.
- Created an ABS simulation software (C-based) and testing client (in CANAPE/CAPL) for OEM brake component testing, greatly reducing the OEM endurance run effort.
- Served as diagnostic component responsible and integrator in Electronic Power Steering (EPS) and EBCM projects.
- Integrated ASIL-D control functions in EPS unit, to facilitate level three functions, the first for that product generation.
- Network and diagnostic communication component responsible for multiple EPS and EBCM projects; configured, implemented, and tested several CAN and diagnostic stacks (J1939, UDS) in C.
- Led global diagnostic communication software development team, coordinating tasks and workload.

Education

Kettering University   *Flint, MI*

B.S. IN COMPUTER ENGINEERING, SUMMA CUM LAUDE   *2008-2012*