Josh Oberhaus

Perception Software Engineer

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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*

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.
- Coordinated with cross-functional software teams and management to determine long term planning of software content and integration strategies.
- 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.
- Implemented Python-based suite of tools to ease the handling of MF4 measurements for re-simulation purposes.

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.
- Reduced EBCM software-release effort through automations and improvements made to tools.
- 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.
- Coached student team through the development of a mobile app to allow easy reflashing and retuning of EBCMs.

Education

Kettering University

Flint, MI

B.S. in Computer Engineering, Summa Cum Laude — *2008-2012*