



Case Study

VSI & Dataspeed

VSI Labs is a leading technology researcher for companies that develop systems or components used in ADAS and automated driving applications. In June 2018, Dataspeed and VSI partnered on a new vehicle build. The 2018 Ford Fusion Hybrid was outfitted with Dataspeed's Drive-by-Wire Kit, which provided a starting point for VSI's engineers to integrate other companies' self-driving components and launch the CAV demonstration build service.

Drive-By-Wire Technology

Drive-by-Wire technology is essential to the development of ADAS/AV technology. It provides a link between the software stack and the vehicle actuators that control the vehicle. Dataspeed's Driveby-Wire Kit allows a computer to transmit signals and electronically control the vehicle's steering, throttle, brake and shifting actuators.

Dataspeed engineers installed their control kit in the Fusion, after which the vehicle was delivered back to VSI, where additional integration was completed. The first thing VSI engineers did was to send low-level messages via the supplied USB-CAN converter tool. A very well documented and supported ROS interface API is supplied, which enables seamless integration of the by-wire controlled Fusion with ROS.

Once the computer is connected to the CAN bus, the signals are converted into messages known as ROS nodes, which allow for easy integration with other processes. ROS nodes perform functions like perception, motion planning, and control, and then communicate information back to the drive-by-wire system to control the vehicle.

On the Road

Dataspeed's Drive-by-Wire Kit has enabled VSI to build and implement ADAS applications like **lane keeping, adaptive cruise control, and automatic emergency braking.** VSI has tested these applications over thousands of miles. From coast to coast, VSI's demo vehicle has performed flawlessly with the Dataspeed By-Wire Kit.



Looking Ahead

VSI and Dataspeed are eager to continue their partnership through 2020 and explore new ways of working together.

The Ford Fusion, equipped with Dataspeed's foundational kit, continues to play a vital role in our vehicle fleet, and VSI is constantly testing and developing new ADAS & AV driving applications.

Why Work with VSI?

- Leverage VSI's applied research expertise
- Get your component integrated into a fully functioning semi-autonomous vehicle
- Grow your brand's reach through VSI's marketing & events
- Demonstrate your technology to industry leaders & other stakeholders

Ready to Get Started? Contact Us:

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