

Team effort

Zuragon and Sonnet.AI are cooperating to bring autonomous solutions to market

by Joachim Fritzson, Zuragon, UK

In March 2018 a South Korean startup that had emerged from academic research around AVs made a big splash at Automotive Testing Expo Korea. Sonnet.AI unveiled its first self-driving car, developed using Zuragon's ViCANdo development suite.

"We have packaged many years of experience into one vehicle as a demonstrator," comments Dr Joonwoo Son, founder and CEO of Sonnet.AI. "In doing so we have also challenged the limits, doing the whole design in ViCANdo."

Project aims

Sonnet.AI had some prerequisites for the project. "Firstly, we wanted to use as much of our IP as possible, without repackaging code but maintaining IP integrity, meaning we can share the results without sharing the source code of our developments," says Son. "Secondly, we wanted to achieve working real-time performance with no product for the sensor fusion and control logic other than ViCANdo and one additional free-of-charge deep learning platform, in this case Tensorflow from Google. Thirdly, we wanted to do everything at a moderate cost. Ultimately we have arrived at the point we hoped for."

Sonnet.AI has one self-driving vehicle based on a vision system and radar, with a roof-mounted Velodyne lidar as a safety and backup system. It has trained the vision system using its IP, and the control logic is also its IP.

Son has more than 20 years' experience in autonomous technology research and has garnered international recognition for his work on sensor fusion and controls, so is well placed to comment on the greatest challenges facing developers of autonomous technologies. "Apart from the ongoing chase for smarter and cheaper sensors and controls, the biggest challenge is the massive amount of data a car produces today," he says. "We must find better and smarter ways to handle data. 5G will help a lot; the context awareness it will bring can help us to use our logic much more efficiently.



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Zuragon's Joachim Fritzson and the Sonnet.AI team unveil the AV at Automotive Testing Expo Korea

We are prepared – and being in Korea, we have some major players in our backyard."

Training courses

Sonnet.AI runs courses for engineers on sensor fusion, AI training and AV control. "They leave with working code for running an AV, packaged in ViCANdo," says Son. "It's a great way of getting in touch with engineers in the field and maintaining active discussion around our concepts."

Son believes Sonnet.AI's basis in academic research differentiates it. "We have arrived at a system that works very well and is cost efficient," he says. "Without revealing too much, we believe that smartphones should be enough to run the next generation of AVs, maybe with a backup safety radar system. Our code and tool concepts are prepared to meet that challenge."

Sonnet.AI's design, with small overheads, made for ViCANdo, makes the code portable between platforms. "We can develop in Windows, Mac or Linux environments to debug our logic and deliver a compiled version for Android or QNX," explains Son. "We believe that this combination is unique. Our team wants to contribute to a safer and cleaner world through AV technologies and have fun while doing it."

Sonnet.AI's technology will be on display at Zuragon's booth at the Autonomous Vehicle Technology World Expo, to be held in June 2018 in Stuttgart, Germany. ◀

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