Implementation of Dynamic HSV Adjusting Method for Lane Detection

Yong Hee Park, Won Seok Choi, Ji Yong Oh, Cheol Jin Park, Seong Gon Choi

Information & communication Engineering, Chungbuk National University, Chungcheongbuk-do, Korea
yh0360@chungbuk.ac.kr, wschoi@chungbuk.ac.kr, jysyoh@chungbuk.ac.kr, p016037013@chungbuk.ac.kr, choisg@chungbuk.ac.kr

Abstract— **We propose design and implementation of system that dynamically adjusts value range of HSV using a photo resistor. In autonomous driving, lane detection is operated by fixing the color range of the lane. However, the color range of the lane changes with environment (time variations, Illumination, etc.), so it is necessary to adjust the range. To do this, we create matrix that make correspond to measured illumination and HSV value. And we designed lane detection Including this matrix. Experiment was conducted in two ways: using headlight and not using it. Experimental results showed that lane was detected despite changing illumination levels.**

Keyword— **autonomous driving, lane detection, image process, sensor, auto-control**

Yong Hee Park received B.S. degree in the College of Information & Communication Engineering, Chungbuk National University, Korea in 2019. He is currently a M.S. candidate in School of Information & Communication Engineering, Chungbuk National University. His research interests include Autonomous Vehicle, AI, Smart Grid.

Won Seok Choi received B.S. and Ph.D. degree in the College of Electrical and Computer Engineering, Chungbuk National University, Korea in 2008 and 2015 respectively. He is currently researcher in Research Institute of Computer and Information Communication(RICIC), Chungbuk National University. His research interests include Vehicle network, AI, Energy saving network, SDN, NFV and NGN.

Ji Yong Oh currently B.S. candidate in the College of Information & Communication Engineering, Chungbuk National University, Korea. His research interests include Autonomous Vehicle, Embedded software.

Cheol Jin Park currently B.S. candidate in the College of Information & Communication Engineering, Chungbuk National University, Korea. His research interests include Autonomous Vehicle, Embedded software.

Seong Gon Choi received B.S. degree in Electronics Engineering from Kyeongbuk National University in 1990, and M.S. and Ph.D. degree from Information Communications University, Korea in 1999 and 2004, respectively. He is currently an associate professor in College of Electrical & Computer Engineering, Chungbuk National University. His research interests include Autonomous Vehicle, smart grid, IoT, mobile communication, high-speed network architecture and protocol.