

## Documents

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**Implementation of Kalman filter and Sonar image processing on FPGA platform**

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**Abstract**

In recent years emergence of many intelligent autonomous systems are possible due to the tremendous advancement of various technologies like computer vision and automation and control engineering with sensor technology. One such intelligent system is autonomous underwater vehicle (AUV) for ocean floor mapping by SONAR technology. Success of this autonomous smart and precise intelligent system depends on accurate navigation of the unmanned vehicle for longer period of time and precise objects detection on the ocean floor by SONAR image processing. This paper describes various algorithms used for this purpose and investigates the computational payloads of such dynamic system. For very high computational payload requirement of such system parallel processing by reconfigurable field programmable gate array is proposed for higher performance. © 2015 IEEE.

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