

# Deep Learning in Data Fusion for Multi-sensor Navigation System

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## Abstract

Deep learning is one of machine learning method that can achieve high accuracy and short response time. Various deep learning architectures have been successfully applied to fields like computer vision, automatic speech recognition, natural language processing, audio recognition and bioinformatics. We use the deep learning architecture for merging samples from sensors for determining the position - navigation. Determine the position in space is made on the basis of samples of sensors: accelerometer, gyroscope, magnetometer, barometer, satellite receiver GPS / GLONASS. The position is determined even when no readings of satellite systems, for example in tunnels, underground, inside buildings. The use of deep learning for this issue appears to be justified because of the large number of variables and high dynamics. The implementation of the algorithm determining the position has been implemented and tested using NVIDIA CUDA technology.

## References

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