



# Deep Learning-based Vessels Driving Behavior Prediction in Inland Navigation

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## Abstract

Deep learning (DL) methods are intensively studied in the field of driving behavior and trajectory prediction for automotive vehicles, maritime vessels, and humans. Publications covering DL-based driving behavior prediction for inland vessels specifically are still rare, and the approaches coming from the maritime domain cannot directly be transferred to river navigation due to different factors influencing a vessel's driving behavior at sea and on inland waterways. Focussing on inland navigation, this contribution briefly presents recent DL approaches to vessel driving behavior prediction (VDBP). The variety of DL models used and the different levels of complexity with respect to data source, prediction scope, and hybridity will be presented. This concise survey aims to serve as an orientation for future research by pointing out promising DL approaches to VDBP of the last year.