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(57) Abstract :
ABSTRACT DEEP LEARNING RESOLVES REPRESENTATIVE MOVEMENT PATTERNS IN A MARINE The analysis of animal movement from telemetry data provides insights into how and why animals move. While traditional approaches to such analysis mostly focus on predicting animal states during movement, we describe an approach that allows us to identify representative movement patterns of different animal groups. To do this, we propose a carefully designed recurrent neural network and combine it with telemetry data for automatic feature extraction and identification of non-predefined representative patterns. In the experiment, we consider a particular marine predator species, the southern elephant seal, as an example. With our approach, we identify that the male seals in our data set share similar movement patterns when they are close to land. We identify this pattern recurring in a number of distant locations, consistent with alternative approaches from the previous invention.

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