

Learning the Dynamics of Articulated Tracked Vehicles

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Abstract : In this work, we present a Bayesian non-parametric approach to model the motion control of ATVs. The motion control model is based on a Dirichlet Process-Gaussian Process (DP-GP) mixture model. The DP-GP mixture model provides a flexible representation of patterns of control manoeuvres along trajectories of different lengths and discretizations. The model also estimates the number of patterns, sufficient for modeling the dynamics of the ATV.

Keywords : Dirichlet processes, gaussian mixture models, learning motion patterns, tracked robots for urban search and rescue

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