

Neurodynamics-Based Distributed Receding Horizon Trajectory Generation for Autonomous Surface Vehicles

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ABSTRACT

This paper presents a neurodynamics-based distributed algorithm for trajectory generation for a group of autonomous surface vehicles (ASVs). By means of convexification, the trajectory generation problem is formulated as a distributed optimization problem with affine constraints and quadratic objectives. Neurodynamic approach and receding horizon mechanism are used for solving the distributed optimization problem. Simulation results on generating trajectories for four fully-actuated and under-actuated ASVs are reported to substantiate the efficacy of the algorithm.

This paper was presented in ICONIP2018, December, 12-16, 2018, Siem Reap, Cambodia.

Supervisor: Prof WANG Jun

Research interests: Neurodynamic Optimization, Trajectory Optimization

All are welcome!



In case of questions, please contact Prof WANG Jun at Tel: 3442 9701, E-mail: jwang.cs@cityu.edu.hk, or visit the CS Departmental Seminar Web at <http://www.cs.cityu.edu.hk/news/seminars/seminars.html>.

