Laboratoire de Conception et d'Intégration des Systèmes

SpeechPizza

Wednesday, 14 Febaruary 2024
12:00 - 13:00, D011
lcis.grenoble-inp.fr

Theodor Nicu theodor.nicu@upb.ro
(PhD candidate at UPB (University Politehnica of Bucharest), Romania, in collaboration with LCIS)

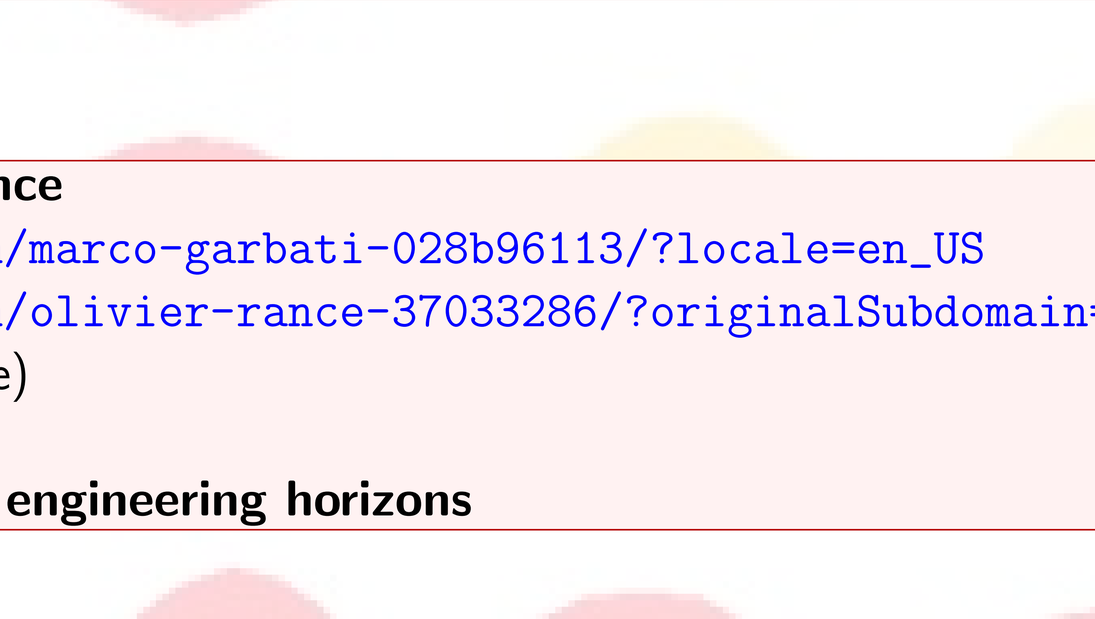
Title: Provably-safe motion along harmonic potential surfaces

Abstract: This work pertains to the generation and use of harmonic functions for obstacle avoidance and target tracking. For each cell of a polyhedral complex, we generate a harmonic potential surface from a Dirichlet-type condition on its boundary. The condition is expressed as a smooth cardinal B-spline curve, thus allowing an efficient computation of the potential which avoids the large gradients characteristic to the piecewise constant boundary conditions usually employed in the literature. Enumerating all pairs of "in" and "out" facets for each feasible cell (one not part of the obstacles) and attaching a relevant cost to each such pair (e.g., proportional to the path length inside the cell), we arrive at a directed graph where, by construction, all possible paths linking the source and the target avoid the obstacles. The optimal path results from a variation of Dijkstra's algorithm.

Marco Garbati and Olivier Rance
https://www.linkedin.com/in/marco-garbati-028b96113/?locale=en_US
https://www.linkedin.com/in/olivier-rance-37033286/?originalSubdomain=fr
(Idyllic Technology, Valence, France)

Title: RF experts finding new engineering horizons

The science behind pizza!



The volunteers for giving a short talk the next editions should not hesitate to contact asap ionela.prodan@lcis.grenoble-inp.fr.