SCIENCESPRINGDAY

FACULDADE DE CIÊNCIAS E TECNOLOGIA
UNIVERSIDADE NOVA DE LISBOA

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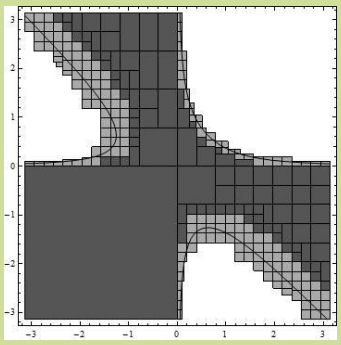
P. I. Project PROCURE

Objectives

Artificial intelligence, and in particular the area of continuous constraint programming, is the major area of scientific interest. This research interest is within the broader context of the application of artificial intelligence techniques to decision support in science and engineering problems.

Internationalization is a major objective accomplished through ongoing joint work with researchers from the Laboratoire d'Informatique de Nantes Atlantique (LINA), which is one of the most advanced research centers on Numerical Optimization based on Constraint and Interval techniques.

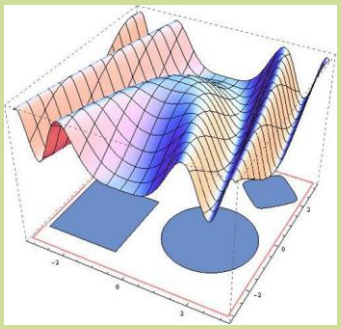


constraint reasoning

Methodology

Several extensions to the continuous constraint framework have been proposed, namely, new consistency techniques, integration of local search methods, handling of differential equations and probabilistic reasoning.

Project PROCURE (http://centria.di.fct.unl.pt/projects/procure) addresses the problem of uncertainty reasoning with mathematical models involving nonlinear constraints over continuous variables. It aims to develop a state-of-the-art technology that combines probability reasoning with constraint programming and to use it in real world science and engineering applications, in close collaboration with domain experts.



probabilistic reasoning

Expected Results

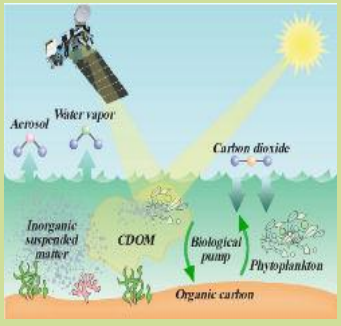
To expand knowledge and competence within an international context, benefiting from personal and institutional collaborations with a world leading research group (LINA).

To improve the articulation between centers of knowledge and business, collaborating with a private company (Holos SA) recognized by its involvement in innovative research projects.

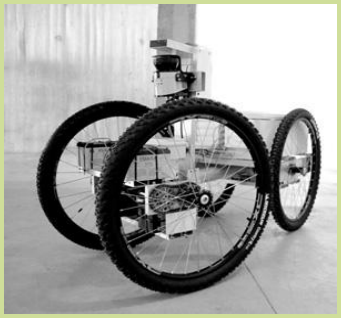
To develop a new technology with potentially significant economic value, providing support for reliable model-based decisions in a spectrum of real world applications.

lina
LABORATOIRE D'INFORMATIQUE DE NANTES ATLANTIQUE

holos
www.holos.pt



ocean color remote sensing



robot localization

Funding: project PROCURE - Probabilistic Constraints for Uncertainty Reasoning in Science and Engineering Applications (PTDC/EEI-CTP/1403/2012) is funded by the:

FCT Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR