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T Lemaire, C Berger, IK Jung, S Lacroix - International Journal of Computer Vision, 2007 - Springer
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T Lemaire, S Lacroix - Journal of Field Robotics, 2007 - laas.fr
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J Kim, S Sukkarieh - Robotics and Autonomous Systems, 2007 - Elsevier
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[LM Paz, J Neira - Intelligent Robots and Systems, 2006 IEEE/RSJ International ..., 2006 - ww.inf.tu-dresden.de](#)

Abstract— In this paper we show how to optimize the computational cost and maximize consistency in EKF-based SLAM for large environments. We combine Local Mapping with Map Joining in a way that the total cost of computing the...

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Page 1. Chapter 1 Map Building and SLAM Algorithms Jose A. Castellanos, Jose Neira, Juan D. Tardos Dept. Informatica e Ingenieria de Sistemas Universidad de Zaragoza Maria de Luna 1, 50018 Zaragoza, Spain ...

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[K Ni, D Steedly, F Dellaert - Robotics and Automation, 2007 IEEE International Conference ..., 2007 - ieeexplore.ieee.org](#)

Abstract Simultaneous localization and mapping (SLAM) is a method that robots use to explore, navigate, and map an unknown environment. However, this method poses inherent problems with regard to cost and time. To lower computation...

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[Morphological neural networks and vision based simultaneous localization and mapping](#)

[I Villaverde, M Graña, Ad'Anjou - Integrated Computer-Aided Engineering, 2007 - IOS Press](#)

Abstract. Simultaneous Localization and Mapping (SLAM) is a key process in several robotic contexts. In this paper we explore the realization of non-metric SLAM using a visual information based approach relying on the detection of...

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[A New Method for Robust and Efficient Occupancy Grid-Map Matching](#)

[J Blanco, J Gonzalez, J Fernandez-Madriral - LECTURE NOTES IN COMPUTER SCIENCE, 2007 - Springer](#)

Abstract. In this paper we propose a new matching method for occupancy grid-maps under the perspective of image registration. Our approach is based on extracting feature descriptors by means of a polar coordinate ...

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[Spatial Information Extraction for Cognitive Mapping with a Mobile Robot](#)

[J Schmidt, CK Wong, WK Yeap - Springer](#)

Abstract. When animals (including humans) first explore a new environment, what they remember is fragmentary knowledge about the places visited. Yet, they have to use such fragmentary knowledge to find their way home. Humans natu...

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“Zeg Johan, wanneer gaan die robots van jou nu eindelijk eens mijn afwas komen doen?” Het is onvoorstelbaar hoe vaak je dergelijke –weliswaar ludiek bedoelde– vragen te horen krijgt, als je doctoreert in de robotica. ...

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[Summarizing Image/Surface Registration for 6DOF Robot/Camera Pose Estimation](#)

[E Battle, C Matabosch, J Salvi - LECTURE NOTES IN COMPUTER SCIENCE, 2007 - Springer](#)

Abstract. In recent years, 6 Degrees Of Freedom (DOF) Pose Estimation and 3D Mapping is becoming more important not only in the robotics community for applications such as robot navigation but also in computer vision for the ...

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[\[PDF\] Learning and Exploration in Autonomous Agents](#)

[B Si - neuro.uni-bremen.de](#)

Two benchmark models are introduced to analyze the basic aspects of place learning and exploration. The checkerboard maze is a stochastic grid-type environment. Exploration performance of an agent is evaluated by the ...

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[\[PDF\] Rao-Blackwellised Inertial-SLAM with Partitioned Vehicle Subspace](#)

[M Euston, J Kim - araa.asn.au](#)

This paper presents methods which enable the Rao-Blackwellised (RB) particle filtering technique to be applicable for the airborne simultaneous localisation and mapping problem. Although RB filter has been ...

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[Local Map Fusion for Real-time Indoor Simultaneous Localization and Mapping](#)

D Rodriguez-Losada, F Matia, A Jimenez, R Galan - JOURNAL OF FIELD ROBOTICS, 2006 - doi.wiley.com

Among the solutions to the simultaneous localization and mapping SLAM problem with probabilistic techniques, the extended Kalman filter EKF is a very common approach. There are several approaches to deal with its computational ...

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S Localization, II Part - IEEE Robotics & Automation Magazine, 2006 - ww.inf.tu-dresden.de

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JD Tardòs - 2006 - laas.fr

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[Detecting Loop Closure with Scene Sequences](#) - [all 4 versions](#) »

KL Ho, P Newman - International Journal of Computer Vision, 2007 - Springer

Abstract. This paper is concerned with "loop closing" for mobile robots.

Loop closing is the problem of correctly asserting that a robot has returned to a previously visited area. It is a particularly hard but important ...

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[Jochen Schmidt, Chee K. Wong, and Wai K. Yeap](#)

NZ Auckland - Springer

Summary. We present an approach for indoor mapping and localisation using sparse range data, acquired by a mobile robot equipped with sonar sensors. The chapter consists of two main parts. First, a split and merge based method for ...

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... By Jeannette Bohg Born on 15th March 1981 in Cottbus ... Submitted on 31st

December 2005 Overseeing Professor: Steffen Hohlhuber Supervisor: Tobias ...

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[Local Reference Frames vs. Global Reference Frame for Mobile Robot Localization and Path Planning](#)

M Alencastre-Miranda, L Munoz-Gomez, R Murrieta- ... - doi.ieeecomputersociety.org

This work aims at two major goals: i) to estimate the position of a mobile robot under sensor and control errors; and ii) to provide a motion strategy that outputs a path so that the strategy diminishes the uncertainty about the ...

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[Bio-Inspired Multi-Robot Behavior For Exploration In Low Gravity Environments](#) - [all 5 versions](#) »

R Martinez-Cantin - 55 th International Astronautical Congress 2004, 2004 - pdf.aiaa.org

In this paper, we present a new paradigm of biomorphic robot which is based on capabilities of animals such as grasshoppers or fiddler crabs. Biomorphic robots seem to be the future in exploration of hazardous environments. As ...

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C Chen, H Wang - Robotics and Automation, 2006. ICRA 2006. Proceedings 2006 ..., 2006 - robocup.csu.edu.cn

Abstract— This paper presents a mapping method that can accurately map large environment with one single robot by visiting the environment for only once, and the resulting map can provide thorough 3D description for the environment ...

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E Courses, T Surveys, TOC View - Intelligent Robots and Systems, 2007. IROS 2007. IEEE/RSJ ..., 2007 - ieeexplore.ieee.org

Abstract— Local maps algorithms have demonstrated to be well suited for mapping large environments as can reduce the computational cost and improve the consistency of the final estimation. In this paper we present a new ...

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JA Castellanos, J Neira, JD Tardos - Autonomous Mobile Robots: Sensing, Control, Decision-making, ..., 2006 - books.google.com

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2006 - isa.uma.es

Abstract – Recently, hybrid maps that combine metric and topological world information have been proposed as a powerful representation of mobile robot environments. Among others, these maps are of special interest for ...

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AP del Pobil - euron.org

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PP Zhang, EE Milios, J Gu - users.cs.dal.ca

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D Marzorati, M Matteucci, DG Sorrenti - Robotic 3D Environment Cognition - kos.informatik.uni-osnabrueck.de

3D-6DoF Hierarchical SLAM with 3D vision D. Marzorati 1, M. Matteucci 2, and DG Sorrenti 1 1 Universita di Milano-Bicocca, DISCo, Milano, Italy, {marzorati, sorrenti}@disco.unimib.it, 2 Politecnico di Milano, DEI, Milano, Italy ...

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[Closing the Loop With Graphical SLAM](#) - all 2 versions »

J Folkesson, I Christensen - Robotics, IEEE Transactions on [see also Robotics and ..., 2007 - ieeexplore.ieee.org

Abstract—The problem of simultaneous localization and mapping (SLAM) is addressed using a graphical method. The main contributions are a computational complexity that scales well with the size of the environment, the ...

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