### Record 1 of 15

**Title:** BAYESIAN NETWORK FOR DECISION AID IN MAINTENANCE  
**Author(s):** Duta, L (Duta, Luminita)  
**Source:** PROCEEDINGS OF THE ROMANIAN ACADEMY SERIES A-MATHEMATICS PHYSICS TECHNICAL SCIENCES INFORMATION SCIENCE  
**Volume:** 13  
**Issue:** 4  
**Pages:** 387-394  
**Published:** OCT-DEC 2012  
**Abstract:** This paper aims to deal with uncertainties occurring in preventive maintenance strategies. After analysing the corrective maintenance data, a decision model that integrates the most important maintenance indicators and their probability distributions is provided. A case study illustrating the proposed methodology that utilizes Bayesian Networks is presented in the final part of the paper.  
**Accession Number:** WOS:000312118100013  
**ISSN:** 1454-9069

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### Record 2 of 15

**Title:** Dynamic Bayesian Network for Decision Aided Disassembly Planning  
**Author(s):** Duta, L (Duta, Luminita); Douche, SA (Douche, Sidali Ad)  
**Editor(s):** Borangiu T; Thomas A; Trentesaux D  
**Source:** SERVICE ORIENTATION IN HOLONIC AND MULTI-AGENT MANUFACTURING CONTROL  
**Book Series:** Studies in Computational Intelligence  
**Volume:** 402  
**Published:** 2012  
**Abstract:** Disassembly processes of used manufactured products are subject to uncertainties. The optimal disassembly level that minimizes the costs of these processes and maximizes the end of life components values is hard to establish. In this work, we propose a method to find influences and causalities between the main disassembly performance indicators in order to decide the optimal disassembly policy. The proposed model highlights the temporal dependencies between variables of the system and is validated using the Bayesia Lab software. In the final part of the chapter, the results of method implementation on a reference case study are presented in order to demonstrate the performance of our approach.  
**Accession Number:** WOS:000309734000011  
**Conference Title:** International Workshop on Service Orientation in Holonic and Multi-Agent Manufacturing Control (SOHOMA 2011)  
**Conference Date:** JUN 20-21, 2011  
**Conference Location:** Paris, FRANCE  
**Conference Host:** Ecole Natl Superieure Arts & Metiers  
**ISSN:** 1860-949X  
**ISBN:** 978-3-642-27448-0

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### Record 3 of 15

**Title:** Web Technologies and Multi-criteria Analysis Used in Enterprise Integration  
**Author(s):** Cioca, M (Cioca, Marius); Cioca, LI (Cioca, Lucian-Ionel); Duta, L (Duta, Luminita)  
**Source:** STUDIES IN INFORMATICS AND CONTROL  
**Volume:** 20  
**Issue:** 2  
**Pages:** 129-134  
**Published:** JUN 2011  
**Abstract:** The studies, research and solutions presented below started from the acute need of small and medium-sized enterprises to integrate their processes, services and relationships with customers and suppliers, in a cost-effective manner, given the fact that ERP systems are quite expensive for such organizations.  
**Accession Number:** WOS:000292015600005  
**Author Identifiers:**

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### Record 4 of 15
Title: On Investigating the Cognitive Complexity of Designing the Group Decision Process

Author(s): Zamfirescu, CB (Zamfirescu, Constantin-Bala); Duta, L (Duta, Luminita); Iantovics, B (Iantovics, Barna)

Source: STUDIES IN INFORMATICS AND CONTROL Volume: 19 Issue: 3 Pages: 263-270 Published: SEP 2010

Abstract: The paper investigates the cognitive complexity associated with the design of group decision processes (GDP) in relation with some basic contextual factors such as task complexity, users' creativity and problem space complexity. The analysis is done by conducting a socio-simulation experiment for an envisioned software tool that acts as collaborative environment for the GDP design. The simulation results provide some insights on how to engineer context-adaptable functionalities aiming at minimizing the cognitive complexity associated with the GDP design. Although the research is carried out for a specific case, namely the GDSS technology, the results may be easily replicated for any sort of collaborative working environment where the cognitive complexity associated with its effective use is playing an important role.

Accession Number: WOS:000282834300006

Author Identifiers:

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ISSN: 1220-1766

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Record 5 of 15

Title: Recurrent Neural Networks in Linear Systems Controlling

Author(s): Patic, PC (Patic, P. C.); Zemouri, RM (Zemouri R., R. M.); Duta, L (Duta, L.)

Source: STUDIES IN INFORMATICS AND CONTROL Volume: 19 Issue: 2 Pages: 153-158 Published: JUN 2010

Abstract: This paper presents an application of an ANN (Artificial Neural Network) of a RNRF type (Recurrent Network with Radial basis Function) in controlling a linear system. The performance of ANN-based control solution is compared with a classic controller and the results show that ANN behaves better than the classic controller. MATLAB simulation performed show that the coupling between the ANN and a proportional controller gives the best performance.

Accession Number: WOS:000279310700005

Author Identifiers:

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ISSN: 1220-1766

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Record 6 of 15

Title: Establishment of the conceptual solution in mobile robot guidance

Author(s): Patic, PC (Patic, Paul Ciprian); Pascale, L (Pascale, Lucia); Duta, L (Duta, Luminita)

Editor(s): Mladenov V; Psarris K; Mastorakis N; Caballero A; Vachtsevanos G

Source: ADVANCES IN COMMUNICATIONS, COMPUTERS, SYSTEMS, CIRCUITS AND DEVICES Book Series: European Conference of Systems-Proceedings Pages: 63-67 Published: 2010

Abstract: In this work one proposed to achieve an autonomous mobile robot to simulate movement in an unknown environment, for example, to move inside of a maze. With specialized documentation and follow some practical examples, one made the prototype model robot, which is an application with a didactical and scientific goal for the some laboratories. Using hardware and software capabilities of the PIC16F877 microcontroller produced by Microchip, one realized the moving of the prototype robot and one can say that one can try to induce the desired movements.

Accession Number: WOS:000290650000011

Conference Title: European Conference of Systems/European Conference of Circuits Technology and Devices/European Conference of Communications/European Conference of Computer Science

Conference Date: NOV 30-DEC 02, 2010

Conference Location: Puerto De La Cruz, SPAIN

Author Identifiers:

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ISSN: 1792-6637


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Record 7 of 15
Title: Designing a roller-bearing assembly using theoretical and experimental methods

Author(s): Popa, IF (Popa, Ion Florin); Duta, L (Duta, Luminita); Patic, CP (Patic, Ciprian Paul)

Editor(s): Martin O; Zheng X

Source: LATEST TRENDS ON ENGINEERING MECHANICS, STRUCTURES, ENGINEERING GEOLOGY  
Book Series: Mathematics and Computers in Science and Engineering  
Pages: 67-70  
Published: 2010

Abstract: The scope of the present paper is to present an analysis mode of some axle-bearing assemblies, where, both experimentally and theoretically obtained results have been used. Considering the conditions imposed by the gearing precision between the elements of the carter type assembly, the paper shows a special interest to geometrical characteristics of the bearing components, the micro-displacements that happen between these ones being able to influence the gearing results.

Accession Number: WOS:000288686900013

Conference Title: 3rd WSEAS International Conference on Engineering Mechanics, Structures, Engineering Geology/International Conference on Geography and Geology

Conference Date: JUL 22-24, 2010

Conference Location: Corfu Island, GREECE

Author Identifiers:

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Title: MPM Job-shop under Availability Constraints

Author(s): Zribi, N (Zribi, N.); Duta, L (Duta, L.); El Kamel, A (El Kamel, A.)

Source: INTERNATIONAL JOURNAL OF COMPUTERS COMMUNICATIONS & CONTROL  
Volume: 4  
Issue: 4  
Pages: 439-451  
Published: DEC 2009

Abstract: A large part of scheduling literature assumes that machines are available all the time. In this paper, the MPM Job-shop scheduling problem, where the machine maintenance has to be performed within certain time intervals inducing machine unavailability, is studied. Two approaches to solve the problem are proposed. The first is a two-phase approach where the assignment and the sequencing are solved separately. The second is an integrated approach based on the exact resolution of the 2-job problem using the geometric approach.

Accession Number: WOS:000270844700011

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ISSN: 1841-9836

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Title: Interface Architecture for a Web-Based Group Decision Support System

Author(s): Suduc, AM (Suduc, Ana-Maria); Bizoi, M (Bizoi, Mihai); Duta, L (Duta, Luminita); Gorghiu, G (Gorghiu, Gabriel)

Source: STUDIES IN INFORMATICS AND CONTROL  
Volume: 18  
Issue: 3  
Pages: 241-246  
Published: SEP 2009

Abstract: With the exponential development of the web, the decision-makers are likely to use the web to support their decision-making processes. In group decision-making processes supported by an information system web-based or desktop-based - one of the most important element which can influence in a great extent if the system will be or not accepted and successful used for decision making, is the user interface. In this paper, we propose an architecture of an interface for an ideal web-based group decision support system.

Accession Number: WOS:000270244500005

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ISSN: 1220-1766
Record 10 of 15
Title: Control and Decision-making Process in Disassembling Used Electronic Products
Author(s): Duta, L (Duta, Luminita); Filip, FG (Filip, Florin Gheorghe)
Source: STUDIES IN INFORMATICS AND CONTROL Volume: 17 Issue: 1 Pages: 17-26 Published: MAR 2008
Abstract: Due to awareness of the product life cycle's impact on the environment, manufacturers have started to embrace the concept of resource recovery systems as an intermediate solution to the environmental problem. The disassembly process is the main stage in recycling of the manufactured products. Disassembly promotes reuse, recycling, material and energetical recovery. It needs advanced control and real-time decision making schemes. In this article, the authors aim at surveying several state-of-the-art solutions of robotized disassembly cells.
Accession Number: WOS:000268913600002

Record 11 of 15
Title: Genetic Algorithms: A Decision Tool In Industrial Disassembly
Author(s): Duta, L (Duta, Luminita); Filip, FG (Filip, Florin Gh.); Zamfirescu, C (Zamfirescu, Constantin)
Editor(s): Iantovics B; Enachescu C; Filip F
Source: COMPLEXITY IN ARTIFICIAL AND NATURAL SYSTEMS, PROCEEDINGS Pages: 124-127 Published: 2008
Abstract: In the recycling process of the Waste Electrical and Electronic Equipment the disassembly process has a central role. Disassembly is not the reverse of the assembly process, real difficulties occur in the tasks assignment process of the disassembly operations. Since this is a multi objective optimization problem, we prove that genetic algorithms provide a useful multi-criteria decision tool in the industrial disassembly process.
Accession Number: WOS:000264924800016

Record 12 of 15
Title: Disassembly line scheduling with genetic algorithms
Author(s): Duta, L (Duta, Luminita); Filip, FG (Filip, Florin Gheorghe); Henrioud, JM (Henrioud, Jean-Michel); Popescu, C (Popescu, Ciprian)
Source: INTERNATIONAL JOURNAL OF COMPUTERS COMMUNICATIONS & CONTROL Volume: 3 Issue: 3 Pages: 270-280 Published: 2008
Abstract: Disassembly is part of the demanufacturing and it is meant to obtain components and materials from end-of-life products. An essential performance objective of a disassembly process is the benefits it brings, that is the revenue brought by the retrieved parts and material, diminished by the cost of their retrieval operations. A decision must be taken to balance an automatic disassembly line. A well balanced line will decrease the cost of disassembly operations. An evolutionary (genetic) algorithm is used to deal with the multi-criteria optimization problem of the disassembly scheduling.
Accession Number: WOS:000257275300005
**Record 13 of 15**

**Title:** Evolutionary programming in disassembly decision making

**Author(s):** Duta, L (Duta, Luminita); Filip, FG (Filip, Florin Gheorghe); Popescu, C (Popescu, Ciprian)

**Source:** INTERNATIONAL JOURNAL OF COMPUTERS COMMUNICATIONS & CONTROL  
Volume: 3  
Pages: 282-286  
Supplement: S  
Published: 2008

**Abstract:** Disassembly retrieves components and materials from end-of-life products for remanufacturing, reuse and recycling. An essential criterion for a performing disassembly system is the benefit it brings, that is the revenue brought by the retrieved parts and material, decreased by the cost of their retrieval. A well balanced line will decrease the cost of disassembly operations. An evolutionary algorithm is used to deal with the multi-criteria optimization problem of the disassembly scheduling.

**Accession Number:** WOS:000257497600042

**Author Identifiers:**

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**ISSN:** 1841-9836

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**Record 14 of 15**

**Title:** Genetic Algorithms: a Decision Tool in Industrial Disassembly

**Author(s):** Duta, L (Duta, Luminita); Filip, FG (Filip, Florin Gheorghe); Zamfirescu, C (Zamfirescu, Constantin)

**Editor(s):** Iantovics BL; Enachescu C; Filip FG

**Source:** 2008 COMPLEXITY & INTELLIGENCE OF THE ARTIFICIAL & NATURAL COMPLEX SYSTEMS, MEDICAL APPLICATIONS OF THE COMPLEX SYSTEMS, BIOMEDICAL COMPUTING  
Pages: 55-61  
DOI: 10.1109/CANS.2008.14  
Published: 2008

**Abstract:** In the recycling process of the Waste Electrical and Electronic Equipment (WEEE) the disassembly process has a central role. Disassembly is not the reverse of the assembly process, real difficulties occur in the tasks assignment process of the disassembly operations. Since this is a multi objective optimization problem, we prove that genetic algorithms provide a useful multi-criteria decision tool in the industrial disassembly process.

**Accession Number:** WOS:000277249300007

**Conference Title:** International Conference on Complexity and Intelligence of the Artificial and Natural Complex Systems - Medical Applications of the Complex Systems Biomedical Computing

**Conference Date:** NOV 08-10, 2008

**Conference Location:** Targu Mures, ROMANIA

**Conference Sponsors:** Romanian Acad, Bucharest & Petru Maior Univ Targu Mures

**Conference Host:** Petu Maior Univ Targu

**Author Identifiers:**

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**ISBN:** 978-1-4244-3937-9

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**Record 15 of 15**

**Title:** A method for dealing with multi-objective optimization problem of disassembly processes

**Author(s):** Duta, L (Duta, L); Filip, FG (Filip, FG); Henrioud, JM (Henrioud, JM)

**Book Group Author(s):** IEEE; IEEE; IEEE

**Source:** PROCEEDINGS OF THE 2003 IEEE INTERNATIONAL SYMPOSIUM ON ASSEMBLY AND TASK PLANNING (ISATP2003)  
Pages: 163-168  
DOI: 10.1109/ISATP.2003.1217205  
Published: 2003

**Abstract:** Disassembly of manufactured goods induces both disassembly costs and revenues from the parts saved by the process. Thus, a good trade-off has to be found, both on the depth of the disassembly, and on the sequence of operations. This optimization problem depends upon the structure of the disassembly system: if it is made of a single workstation, the costs depend mainly upon the process duration. If the system is a line, the costs depend mainly upon the line balancing, all the more if it is highly manual. In this paper the authors consider the line structure and propose an algorithm which will allow to find a disassembly sequence that optimizes a very simple function integrating the income from the parts, the material produced by the process and the cycle time of the disassembly line. An example is given to illustrate the proposed algorithm.

**Accession Number:** WOS:000184467400029

**Conference Title:** 5th IEEE International Symposium on Assembly and Task Planning (ISATP2003)

**Conference Date:** JUL 10-11, 2003
**Conference Location:** BESANCON, FRANCE  
**Conference Sponsors:** IEEE Robot & Automat Soc, Assembly Net  
**Author Identifiers:**

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**ISBN:** 0-7803-7770-2
A Bayesian network (also known as a Bayes network, belief network, or decision network) is a probabilistic graphical model that represents a set of variables and their conditional dependencies via a directed acyclic graph (DAG). Bayesian networks are ideal for taking an event that occurred and predicting the likelihood that any one of several possible known causes was the contributing factor. For example, a Bayesian network could represent the probabilistic relationships between diseases and symptoms Information Science and Statistics. Bayesian Networks and Decision Graphs. Preface. Table of Contents. 1 Prerequisites on Probability Theory. Part I Probabilistic Graphical Models. 2 Causal and Bayesian Networks. 3 Building Models. 4 Belief Updating in Bayesian Networks. 5 Analysis Tools for Bayesian Networks. Improvement. Jensen and Nielsen: Bayesian Networks and Decision Graphs, Second Edition. Lee and Verleysen: Nonlinear Dimensionality Reduction. Marchette: Computer Intrusion Detection and Network Monitoring: A Statistical. Viewpoint. Rissanen: Information and Complexity in Statistical Modeling. Rubinstein and Kroese: The Cross-Entropy Method: A Unified Approach to. Combinatorial Optimization, Monte Carlo Simulation, and Machine Learning. Using Bayesian Networks to aid negotiations among agents Banerjee, Sandip Debnath, & Sandip Mathematical ~: Computer Science Department University of Tulsa 600 South College Avenue Tulsa, OK 74104 {bikram,debnath,sandip}@euler.mcs.utulsa.edu Abstract Sen known, then the actual decision taken by another agent given these factors can be used to update the conditional probabilities at the outcome nodes. In this paper we focus on the decision mechanism that allows a modeling agent to use its knowledge represented as a Bayesian network to choose actions that set the negotiation context that will maximize the chance of its offer to be accepted by the other agent involved in the negotiation. Bayesian Belief Networks. Bayesian Decision Theory. Jason Corso. SUNY at Bualo. J. Corso (SUNY at Bualo). Bayesian Decision Theory. 1 / 59. Overview and Plan. Covering Chapter 2 of DHS. Bayesian Decision Theory is a fundamental statistical approach to the problem of pattern classification. Quantifies the tradeoffs between various classifications using probability and the costs that accompany such classifications. Assumptions: Decision problem is posed in probabilistic terms. All relevant probability values are known. J. Corso (SUNY at Bualo). Bayesian Decision Theory. 2 / 59. Recall the Fish! Bayesian Networks for Decision-Making and Causal Analysis under Uncertainty in Aviation. By Rosa Maria Arnaldo ValdÃ©s, V. Fernando GÃ¡mez Comendador, Alvaro Rodriguez Sanz, Eduardo Sanchez Ayra, Javier Alberto Paz CastÃ¡n and Luis Perez Sanz. Bayesian Networks (BNs) have been broadly applied to decision-making problems in a wide variety of fields because they combine the benefits of formal probabilistic methods, understandable easily visual form, and efficient computational tools when exploring consequences and risks. In this chapter, we revise the advantages of applying BNs to aviation and air transport decision-making problems in environments affected by uncertainty.