

Preface

The papers included in this volume were presented at the Catalonian Conference on Artificial Intelligence, which was held in Castellón, Spain on October 24–25, 2002. The main aim of the 5th Catalonian Conference on Artificial Intelligence (CCIA 2002) was to get the Catalonian Artificial Intelligence community together for a fruitful interchange of ideas, allowing researchers to get a quick overview of the local state of the art. Another important aim of the conference was to promote collaborations among research groups in the community.

Seventy-seven contributed papers were submitted. The program committee selected 48 among them, after considering the reviews provided by at least two referees per paper. Among these 48 accepted papers, 37 were original papers and therefore they were included in this volume. The number of submitted papers and the number of rejected papers had increased with respect to the last conference.

In this volume, final versions of the accepted papers incorporating the reviewers' comments have been included. We have arranged the contents into five subjects: Reasoning Models, Constraint Satisfaction, Machine Learning and Classification, Multi-Agent Systems, and Computer Vision and Robotics.

In the first subject, *Reasoning Models*, six of the 11 papers included deal with qualitative reasoning, four papers deal with case-based reasoning, and the other paper deals with representing dynamic processes.

In the second subject, *Constraint Satisfaction*, three papers were included two of them contain theoretical results and the other one combines Petri Nets with Constraint Satisfaction methodology to represent manufacturing architectures and production logistics.

In the third subject, *Machine Learning and Classification*, six of the eight papers included in the proceedings deal with classification of knowledge, another paper evaluates algorithms which perform feature selection for improving the inductive learner, and the remaining paper evaluates algorithms for record linkage.

The use of the *Multi-Agent System* (MAS) paradigm has increased sharply, and it's now an important field within Artificial Intelligence. In fact, many papers on this subject were received, from which five were included in this volume. The topics of these papers are very different: real-time MAS; the combination of MAS with case-based reasoning for autonomous learning from experience; the combination of MAS with learning and fuzzy logic for robot navigation; the application of MAS for organizing the procurement of organs and tissues for transplantation purposes; and the application of several approaches based on ant colony optimization to solve the resource constraint project scheduling problem.

For the last subject, *Computer Vision and Robotics*, one paper deals with robot path planning, and the other nine papers deal with topics of computer vision, each very different and interesting: 3-D reconstruction; face classification; recognition of textures from different distances; unsupervised approach to image

segmentation; the use of panoramic images for motion segmentation; unsupervised parameterization of Gaussian Mixture Models; real-time visual inspection and classification of cork stoppers; the fusion of information from angiograms and intravascular ultrasound images; and an application to seek people wearing specific clothes.

CCIA 2002 was organized by the *Asociació Catalana d'Intel·ligència Artificial* (ACIA) which promotes this conference and the Universitat Jaume I de Castelló, the hosting institution. Support for this event was provided by the *Asociació Catalana d'Intel·ligència Artificial*, the Departamento de Ingeniería y Ciencia de los Computadores de la Universitat Jaume I, the Fundació Caixa Castelló-Bancaixa, British Petroleum Oil Castellón, Generalitat Valenciana, and the Ministerio de Educación y Ciencia.

We would like to express our sincere gratitude to all the authors for making the conference and this book possible with their contributions and participation. We sincerely thank the members of the organizing and program committees, and the reviewers, for their invaluable efforts in helping with the preparation of this event. We explicitly want mention the invaluable effort of Feliciano Manzano Casas. Thanks also to the invited speakers, Christian Freksa and José del R. Millán.

The global assessment of the contributions contained in this volume is positive. They give a representative sample of the current state of the art in the Catalanian Artificial Intelligence community.

July 2002

Maria Teresa Escrig Monferrer
Francisco Toledo Lobo

Organization

CCIA 2002 was organized by the Departamento de Ingeniería y Ciencia de los Computadores, Universitat Jaume I and the Associació Catalana d'Intel·ligència Artificial.

General Chair

Maria Teresa Escrig Monferrer

Program Committee

Elisabet Golobardes (EALS-URL)

Francisco Toledo Lobo (ICC-UJI)

Scientific Committee

Núria Agell (ESADE-URL)

Joseph Aguilar (Tou-UPC)

Isabel Aguilo (UIB)

M. Isabel Alfonso (CCIA-UA)

Cecilio Angulo (GREC-UPC)

Ester Bernardó (URL)

Vicent Botti (UPV)

Nuria Castell (UPC)

Andreu Català (UPC)

Enric Cervera (ICC-UJI)

Ulises Cortés (UPC)

Ana García (UPM)

Luis A. García (ICC-UJI)

Rafael García (UGI)

Elisabet Golobardes (EALS)

Maria Teresa Escrig (ICC-UJI)

César Fernández (UdL)

Pilar Fuster (UIB)

Josep M. Garrell (EALS-URL)

Antoni Grau (ESAI-UPC)

Angeles Lopez (ICC-UJI)

Lluís Marquez (UPC)

Joan Martí (Ugi)

Gregorio Martín (UV)

Mario Martín (UPC)

Andrés Marzal (LSI-UJI)

Joaquim Melendez (Ugi)

Antonio Moreno (URV)

Xavier Parra (GREC-UPC)

Enric Plaza (IIIA-CSIC)

Miguel A. Piera (UAB)

Filiberto Pla (LSI-UJI)

Monique Polit (Uper)

Josep Puyol (IIIA-CSIC)

David Riaño (URV)

Horacio Rodríguez (UPC)

Miquel Sánchez (UPC)

José M. Sanchiz (ICC-UJI)

Carles Sierra (IIIA-CSIC)

Vicenc Torra (IIIA-CSIC)

Organization Committee

José M. Badía
Enrique Cervera
Luis A. García
Angeles López
Feliciano Manzano

Begoña Martínez
Gloria Martínez
Lledo Museros
Julio Pacheco
José M. Sanchiz

Sponsoring Institutions

Asociació Catalana d'Intel·ligència Artificial
British Petroleum Oil Castellón
Depart. de Ingeniería y Ciencia de los Computadores, Universitat Jaume I
Fundació Caixa Castelló-Bancaixa
Generalitat Valenciana
Ministerio de Educación y Ciencia