UC3M

RESEARCH GROUPS

CAOS

LABORATORY

CONTROL, LEARNING AND SYSTEMS OPTIMIZATION

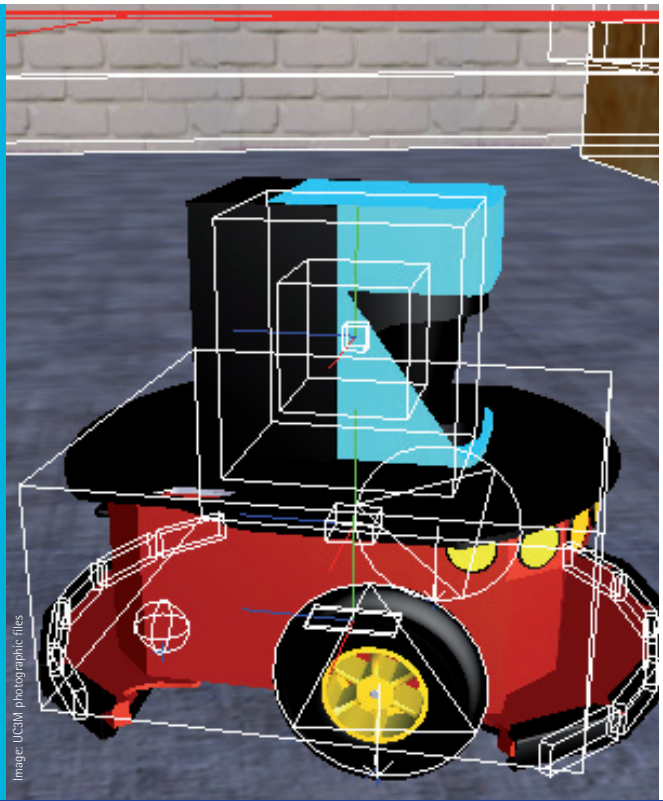
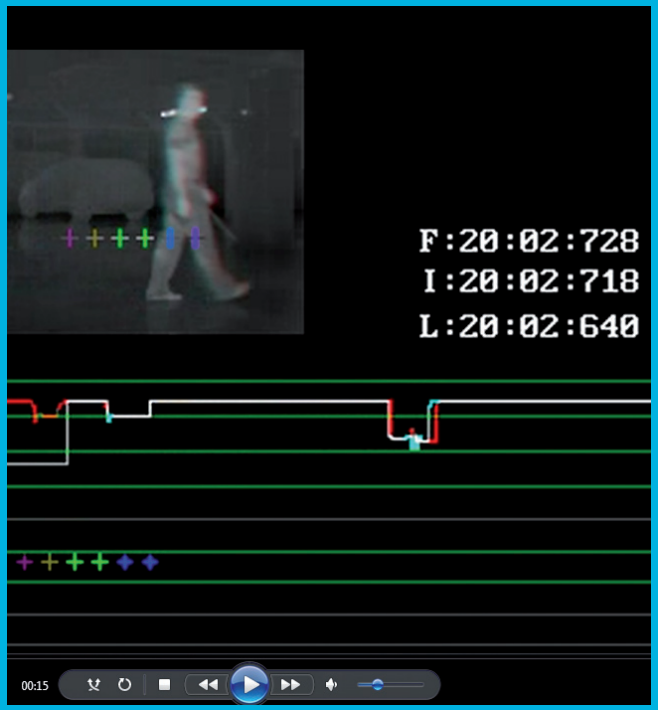


Image: UC3M photographic files

Universidad Carlos III de Madrid

www.uc3m.es



Sensor Fusion (radar and thermal imaging)

The **Control, Learning and Systems Optimization Laboratory (CAOS)**, led by Dr. Mª Araceli Sanchís de Miguel, is formed by a team of 12 professionals who are experts in the prediction, optimization, control of business services, processes and decisions based on data analysis, using advanced artificial intelligence technologies.

Technologies know-how that CAOS' members contribute to group's research lines allow automating services and developing of complex tasks within companies.

•LINES OF RESEARCH•

- Artificial intelligence
- Intelligent data analysis
- Pattern recognition
- Activity recognition
- Control optimization
- AI applied in games

Robot and sensors

•OUTSTANDING COLLABORATIONS AND R&D&I PROJECTS•

The CAOS group maintains collaborations with: GAMCO, S.L. (Machine Generation of Knowledge Models); Sigma Data Services, S.L.

The most relevant R&D&I projects of the group include:

- Advanced Driver Assistance System for Urban Environments: Artificial Intelligence.
  Funding Entity: Ministry of Education and Science. Date: 2004-2007
- Pedestrians and Bikers Detection System - Sensor Fusion
  Funding Entity: Ministry of Education and Science. Date: 2007-2010
- Trainutri. Training and Nutrition senior social platform.
  Funding Entity: European Union. The Ambient Assisted Living Joint Programme
  Date: 2010-2012

•INNOVATIVE TECHNOLOGICAL SOLUTIONS•

- System for the efficient identification of road traffic signs by means of sets of classifiers.
- Advanced tools for the automatic analysis of market data.
- Forecasting Time Series by mean of Artificial Neural Networks and Evolutionary Computation.
- Activity recognition: algorithms for human/agents activities recognition.
- Artificial intelligence software targeted to computer sector companies interested in integrating these techniques into the products and Solutions that they offer.

•SCIENTIFIC-TECHNICAL SERVICES•

· Prediction of trends and process optimization based on intelligent data analysis.

· Design of intelligent data retrieval -Data Mining- systems based on state of the art technologies.

· Forecasting Time Series by means of machine learning techniques.

· Explicit representation of the key processes and the knowledge of complex organizations.

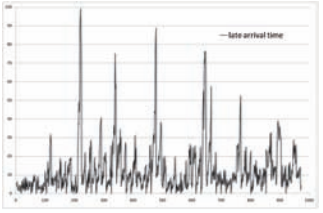
· Application of Artificial Intelligence techniques to the resolution of business problems.

· Application of activity recognition methods in Ambient Assisted Living, videogames and human-computer interaction.

Traffic sign recognition

Activity recognition

Virtual environment for cameras and vehicle



Time series forecasting

Science Park Universidad Carlos III de Madrid
Technology Transfer Office
Tel +34 916244023/4011 · Fax +34916244097
E-mail comercializacion@pcf.uc3m.es
Web www.uc3m.es

CAOS

Contact Information

HEAD RESEARCHER
Araceli Sanchis

E-MAIL
araceli.sanchis@uc3m.es

WEBSITE
www.uc3m.es/portal/page/portal/research/research_groups/caos

Universidad
Carlos III de Madrid
www.uc3m.es

IMAGE OF COVER: *Virtual environment for robot*