EXPERT SYSTEM FOR THE AID OF URODYNAMIC DIAGNOSTICS

TECNOLOGIA PATENTADA

DADES DE CONTACTE:

Research Results Transfer Office-OTRI
University of Alicante
Tel.: +34 96 590 99 59
Email: areaempresas@ua.es
http://innoua.ua.es

RESUM

The application of the artificial intelligence in different contexts (industrialist, computer science, biological, etc.) this demonstrating that it is a very useful tool.

In the field of the medicine, the expert systems begin to be used to attend the doctor in the clinical diagnostics. A great percentage of urodynamic registries exist where the urologist cannot obtain a clear diagnosis and must make a series of more specific and complicated tests.

The expert system that we are developing allows helping to the urologist in the diagnostic from An initial questionnaire that is asked the patient who fills up it. If the diagnostic is ambiguous, the urologist will have to make a basic urodynamic study. From the new data that are obtained, the expert system and the urologist they have more information to make the diagnostic. Of this form the number of tests is reduced, the treatment of the patient improves and times and expenses are reduced.



DESCRIPCIÓ TÈCNICA

The knowledge of the specialist, with experience in the casuistry of the problem, offers a source of intelligence with which to obtain a knowledge base by means of which to apply techniques of artificial intelligence of support to the decision making.

The obtaining of new information allows developing an expert artificial system that will help to the specialist in tasks related to the establishment of a diagnostic.

The main steps for the development of the system are:

• To create a data base that gathers excellent experiences and information for the study, treatment and diagnostic of urologic malfunctions, information that

will serve like entrance to an expert system based on the model of intelligent agents.

• In a learning stage the bases of necessary rules for the later inference of the system will be generated. Under the supervision of a specialist a sufficiently

representative sample of data will be selected to form a complete data base of learning. Next, the motor of inference by means of mechanisms of neuronal networks will be created.

• Finally, the expert system will be implanted that, supported in the knowledge base and the created motor of inference, helps the decision making.

AVANTATGES I ASPECTES INNOVADORS

MAIN ADVANTAGES

The urodynamic diagnosis with the help of an expert system contributes the following advantages:

- It reduces the number of tests that urologist makes the patient.
- It increases the comfort of the patient.
- The overcrowding of the hospitals diminishes.
- It reduces the time of doctor dedicated to makes the urodynamics studies.
- It reduces economic expenses to the hospitals.

INNOVATIVE ASPECTS

The system to develop contributes like main innovating aspect orienting to the doctor in a possible diagnostics making the smaller number of tests. Of this form, the patient suffers less possible and a time and a cost of unnecessary resources are saved.

ESTAT ACTUAL

In phase of development and test. We need urodynamic data to make a first prototype

APLICACIONS DE L'OFERTA

The expert system is applied in urology to help the doctor to make diagnostics.

COL·LABORACIÓ BUSCADA

Company dedicated to the development, programming and sale of medical equipment.

Tasks:

- To provide medical information: urodynamic data are needed to make a first prototype.
- To provide infrastructure resources as well as financial resources to make tests.

DRETS DE PROPIETAT INTEL·LECTUAL

All the information is protected by know-how.

SECTORS D'APLICACIÓ (2)

Computer Science, Language and Communication
Medicine and Health