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ICT COST Action IC0702

Combining Soft Computing Techniques and Statistical Methods to Improve Data Analysis Solutions

Descriptions are provided by the Actions directly via e-COST.

The main objective of the **Action** is to strengthen the dialogue between the statistics and soft computing research communities in order to cross-pollinate both fields and generate mutual improvement activities.

Soft computing, as an engineering science, and statistics, as a branch of mathematics, emphasize different aspects of data analysis. Soft computing focuses on obtaining working solutions quickly, accepting approximations and unconventional approaches. Its strength lies in its flexibility to create models that suit the needs arising in applications (context of discovery, model generation). In addition, it emphasizes the need for intuitive and interpretable models, which are tolerant to imprecision and uncertainty. Statistics is more rigorous and focuses on establishing objective conclusions based on experimental data by analysing the possible situations and their (relative) likelihood (context of justification, model validation). It emphasizes the need for mathematical methods and tools to assess solutions and guarantee performance. Bringing the two fields closer together will enhance the robustness and generalisability of data analysis methods, while preserving the flexibility to solve real-world problems efficiently and intuitively.

Keywords: data analysis, soft computing, statistics, model generation, model validation

Information and Communication Technologies COST Action IC0702

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- ▶ Management Committee



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Websites*

Action website:
<http://www.cost-ic0702.org>

Domain website:
<http://www.cost.eu/ict>

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