European Centre
for Soft Computing

COST Action IC0702

Work Group A

Statistical Validation and Monitoring

- **Current focus is on very simple statistical techniques.**

- **Objective, statistical validation is desirable.**

- **Specific topics/areas:**

  - **Cope with overfitting by considering data generation processes governed by Soft Computing models.**

  - **Study resampling for assessment and comparison.**

  - **Statistical monitoring of deployed models (system failure, change points, loss of fit etc.)**

  - **Change mining with Soft Computing methods.**

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- **Only part of the power and flexibility of NNs is used in combination with statistical techniques.**

- **Restrictions of Support Vector Machines:**

  - **Kernel functions are fixed to data points.**

  - **Parameters are not adapted during training.**

- **NN Training is usually much more flexible.**

- **Statistical methods for designing and training NNs.**

  - **Example: comparison of network structures in terms of statistical hypothesis tests.**

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