Pot-luck causality challenge: FACT SHEET (for a task solved)

Title: Participant name, address, email and website: Task(s) solved:

Reference:

Provide a pointer to a technical memorandum or a paper (optional).

Method:

Summarize the algorithms you used in a way that those skilled in the art should understand what to do. Profile of your methods as follows:

- Preprocessing
- <u>Causal discovery</u>
- <u>Feature selection</u>
- <u>Classification</u>
- <u>Model selection/hyperparameter selection</u>

Results: The reader should also know from reading the fact sheet what the strength of the method is. To that end, provide a result table:

Table 1: Result table.

Comment about the following:

- <u>quantitative advantages</u> (e.g. compact feature subset, simplicity, computational advantages)
- <u>qualitative advantages</u> (e.g. compute posterior probabilities, theoretically motivated, has some elements of novelty).

Briefly explain your implementation. Provide a URL for the code (if available). Precise whether it is a push-button application that can be run on benchmark data to reproduce the results, or resources such as modules or libraries.

Keywords: Put at *least one keyword in each category*. Try some of the following keywords and add your own:

- <u>Preprocessing or feature construction</u>: centering, scaling, standardization, PCA.
- <u>Causal discovery</u>: Bayesian Network, Structural Equation Models, Probabilistic Graphical Models, Markov Decision Processes, Propensity Scoring, Information Theoretic Method.
- <u>Feature selection</u>: filter, wrapper, embedded feature selection, feature ranking, etc.
- <u>Classifier</u>: neural networks, nearest neighbors, tree classifier, RF, SVM, kernel-method, leastsquare, ridge regression, L1 norm regularization, L2 norm regularization, logistic regression, ensemble method, bagging, boosting, Bayesian, transduction.
- <u>Hyper-parameter selection</u>: grid-search, pattern search, evidence, bound optimization, cross-validation, K-fold.
- <u>Other</u>: ensemble method, transduction.

Pot-luck causality challenge: FACT SHEET (for a donated dataset)

Repository URL: <u>http://www.causality.inf.ethz.ch/repository.php?id=<yournum></u>

[Include below the information shown at the above URL]

Dataset name:

Title: Authors: Contact name, address, email and website:

Key facts:

Data dimensions (number of variables, number of entries), variable types, missing data, etc. See ftp://ftp.ics.uci.edu/pub/machine-learning-databases/DOC-REQUIREMENTS for inspiration.

Abstract:

Keywords: