**101.ser Knowledge Modeling Data (Students' Knowledge Levels on DC Electrical Machines)**

1. 数据库网址

https://archive.ics.uci.edu/ml/datasets/ser+Knowledge+Modeling+Data+(Students'+Knowledge+Levels+on+DC+Electrical+Machines)

2. 数据库描述

【1.[数据集名称]数据集由[机构名或人名]采集；】The data used in our experiments were collected by E. Alpaydin, C. Kaynak, from Department of Computer Engineering,Bogazici University at July,1998.【2.用于[什么实验目的]】We used preprocessing programs made available by NIST to extract normalized bitmaps of handwritten digits from a preprinted form.【3】

【4】The database has 5620 samples, respectively belong to optdigits.tra with 3823 samples and optidigits.tes with 1797 samples. The categories of network system include seven categories, as shown in Table 1.

Table 1 Category Distribution of Network System [根据数据库绘制]

|  |  |  |  |
| --- | --- | --- | --- |
| Invasion Categories | optdigits.tra | optdigits.tes | Total Number of Samples |
|  |  |  |  |
|  |  |  |  |
| Total number of samples in total |  |  | 403 |

|  |  |
| --- | --- |
| **Abstract**: The dataset is about the users' learning activities and knowledge levels on subjects of DC Electrical Machines. The dataset had been obtained from online web-courses and reported in my Ph.D. Thesis. |  |

**Source:**

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-- Institution: Faculty of Technology, Department of Software Engineering, Karadeniz Technical University, Trabzon, Turkiye   
-- Donor: Students of Department of Electrical Education of Gazi University   
-- Date: October, 2009   
Kahraman, H. T. (2009). Designing and Application of Web-Based Adaptive Intelligent Education System. Gazi University Ph. D. Thesis, Turkey, 1-156.

**Data Set Information:**

-- The users' knowledge class were classified by the authors   
using intuitive knowledge classifier (a hybrid ML technique of k-NN and meta-heuristic exploring methods), k-nearest neighbor algorithm.   
See article for more details on how the users' data was collected and evaluated by the user modeling server.   
  
Kahraman, H. T., Sagiroglu, S., Colak, I., Developing intuitive knowledge classifier and modeling of users' domain dependent data in web,   
Knowledge Based Systems, vol. 37, pp. 283-295, 2013.   
  
Kahraman, H. T. (2009). Designing and Application of Web-Based Adaptive Intelligent Education System. Gazi University Ph. D. Thesis, Turkey, 1-156.

**Attribute Information:**

STG (The degree of study time for goal object materails), (input value)   
SCG (The degree of repetition number of user for goal object materails) (input value)   
STR (The degree of study time of user for related objects with goal object) (input value)   
LPR (The exam performance of user for related objects with goal object) (input value)   
PEG (The exam performance of user for goal objects) (input value)   
UNS (The knowledge level of user) (target value)   
  
Class Distribution: the class value (UNS).   
Very Low: 50   
Low:129   
Middle: 122   
high 130

**Relevant Papers:**

Kahraman, H. T., Sagiroglu, S., Colak, I., Developing intuitive knowledge classifier and modeling of users' domain dependent data in web,   
Knowledge Based Systems, vol. 37, pp. 283-295, 2013.