

# The Adult dataset

The information is a replica of the notes for the abalone dataset from the **UCI** repository.

## 1. Title of Database: adult

## 2. Sources:

(a) Original owners of database (name/phone/snail address/email address)  
US Census Bureau.

(b) Donor of database (name/phone/snail address/email address)  
Ronny Kohavi and Barry Becker,  
Data Mining and Visualization  
Silicon Graphics.  
e-mail: ronnyk@sgi.com

(c) Date received (databases may change over time without name change!)  
05/19/96

## 3. Past Usage:

- (a) Complete reference of article where it was described/used  
@inproceedings{kohavi-nbtree,  
author={Ron Kohavi},  
title={Scaling Up the Accuracy of Naive-Bayes Classifiers: a Decision-Tree Hybrid},  
booktitle={Proceedings of the Second International Conference on Knowledge Discovery and Data Mining},  
year = 1996,  
pages={to appear}}
- (b) Indication of what attribute(s) were being predicted  
Salary greater or less than 50,000.
- (b) Indication of study's results (i.e. Is it a good domain to use?)  
Hard domain with a nice number of records.  
The following results obtained using MLC++ with default settings  
for the algorithms mentioned below.

	Algorithm	Error
1	C4.5	15.54
2	C4.5-auto	14.46
3	C4.5-rules	14.94
4	Voted ID3 (0.6)	15.64
5	Voted ID3 (0.8)	16.47
6	T2	16.84
7	1R	19.54
8	NBTree	14.10
9	CN2	16.00
10	HOODG	14.82
11	FSS Naive Bayes	14.05
12	IDTM (Decision table)	14.46
13	Naive-Bayes	16.12

14	Nearest-neighbor (1)	21.42
15	Nearest-neighbor (3)	20.35
16	OC1	15.04
17	Pebls	Crashed. Unknown why (bounds WERE increased)

#### 4. Relevant Information Paragraph:

Extraction was done by Barry Becker from the 1994 Census database. A set of reasonably clean records was extracted using the following conditions: ((AAGE>16) && (AGI>100) && (AFNLWGT>1)&& (HRSWK>0))

#### 5. Number of Instances

- 48842 instances, mix of continuous and discrete (train=32561, test=16281)
- 45222 if instances with unknown values are removed (train=30162, test=15060)
- Split into train-test using MLC++ GenCVFiles (2/3, 1/3 random).

#### 6. Number of Attributes

6 continuous, 8 nominal attributes.

#### 7. Attribute Information:

1. age: continuous.
2. workclass: Private, Self-emp-not-inc, Self-emp-inc, Federal-gov, Local-gov, State-gov, Without-pay, Never-worked.
3. fnlwgt: continuous.
4. education: Bachelors, Some-college, 11th, HS-grad, Prof-school, Assoc-acdm, Assoc-voc, 9th, 7th-8th, 12th, Masters, 1st-4th, 10th, Doctorate, 5th-6th, Preschool.
5. education-num: continuous.
6. marital-status: Married-civ-spouse, Divorced, Never-married, Separated, Widowed, Married-spouse-absent, Married-AF-spouse.
7. occupation: Tech-support, Craft-repair, Other-service, Sales, Exec-managerial, Prof-specialty, Handlers-cleaners, Machine-op-inspct, Adm-clerical, Farming-fishing, Transport-moving, Priv-house-serv, Protective-serv, Armed-Forces.
8. relationship: Wife, Own-child, Husband, Not-in-family, Other-relative, Unmarried.
9. race: White, Asian-Pac-Islander, Amer-Indian-Eskimo, Other, Black.
10. sex: Female, Male.
11. capital-gain: continuous.
12. capital-loss: continuous.
13. hours-per-week: continuous.
14. native-country: United-States, Cambodia, England, Puerto-Rico, Canada, Germany, Outlying-US(Guam-USVI-etc), India, Japan, Greece, South, China, Cuba, Iran, Honduras, Philippines, Italy, Poland, Jamaica, Vietnam, Mexico, Portugal, Ireland, France, Dominican-Republic, Laos, Ecuador, Taiwan, Haiti, Columbia, Hungary, Guatemala, Nicaragua, Scotland, Thailand, Yugoslavia, El-Salvador, Trinidad&Tobago, Peru, Hong, Holand-Netherlands.  
class: >50K, <=50K

#### 8. Missing Attribute Values:

7% have missing values.

#### 9. Class Distribution:

Probability for the label '>50K' : 23.93% / 24.78% (without unknowns)

Probability for the label '<=50K' : 76.07% / 75.22% (without unknowns)

## 10. Notes for Delve

1. One prototask (income) has been defined, using attributes 1-13 as inputs and *income level* as a binary target.
2. Missing values - These are confined to attributes 2 (workclass), 7 (occupation) and 14 (native-country). The prototask only uses cases with no missing values.
3. The income prototask comes with two priors, differing according to if attribute 4 (education) is considered to be nominal or ordinal.

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*Last Updated 8 October 1996*

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