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Center for Machine Learning and Intelligent Systems

# **Housing Data Set**

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Abstract: Taken from StatLib library



Data Set Characteristics:	Multivariate	Number of Instances:	506	Area:	N/A
Attribute Characteristics:	Categorical, Integer, Real	Number of Attributes:	14	Date Donated	1993-07- 07
Associated Tasks:	Regression	Missing Values?	No	Number of Web Hits:	276904

#### Source:

Origin:

This dataset was taken from the StatLib library which is maintained at Carnegie Mellon University.

Creator:

Harrison, D. and Rubinfeld, D.L.

'Hedonic prices and the demand for clean air', J. Environ. Economics & Management, vol.5, 81-102, 1978.

#### **Data Set Information:**

Concerns housing values in suburbs of Boston.

#### **Attribute Information:**

- 1. CRIM: per capita crime rate by town
- 2. ZN: proportion of residential land zoned for lots over 25,000 sq.ft.
- 3. INDUS: proportion of non-retail business acres per town
- 4. CHAS: Charles River dummy variable (= 1 if tract bounds river; 0 otherwise)
- 5. NOX: nitric oxides concentration (parts per 10 million)
- 6. RM: average number of rooms per dwelling
- 7. AGE: proportion of owner-occupied units built prior to 1940
- 8. DIS: weighted distances to five Boston employment centres
- 9. RAD: index of accessibility to radial highways

- 10. TAX: full-value property-tax rate per \$10,000
- 11. PTRATIO: pupil-teacher ratio by town
- 12. B: 1000(Bk 0.63)<sup>2</sup> where Bk is the proportion of blacks by town
- 13. LSTAT: % lower status of the population
- 14. MEDV: Median value of owner-occupied homes in \$1000's

### **Relevant Papers:**

Belsley, Kuh & Welsch, 'Regression diagnostics: Identifying Influential Data and Sources of Collinearity', Wiley, 1980. 244-261.

[Web Link]

Quinlan,R. (1993). Combining Instance-Based and Model-Based Learning. In Proceedings on the Tenth International Conference of Machine Learning, 236-243, University of Massachusetts, Amherst. Morgan Kaufmann. <a href="Web Link">[Web Link]</a>

## Papers That Cite This Data Set<sup>1</sup>:



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Glenn Fung and M. Murat Dundar and Jinbo Bi and Bharat Rao. <u>A fast iterative algorithm for fisher discriminant using heterogeneous kernels</u>. ICML. 2004. [View Context].

Kristiaan Pelckmans and Jos De Brabanter and J. A. K Suykens and Bart De Moor and K. U. Leuven - ESAT. <u>The Differogram: Non-parametric Noise Variance Estimation and its Use for Model Selection</u>. SCDSISTA. 2004. [View Context].

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David Hershberger and Hillol Kargupta. <u>Distributed Multivariate Regression Using Wavelet-Based Collective Data Mining</u>. J. Parallel Distrib. Comput, 61. 2001. [View Context].

Thomas Melluish and Craig Saunders and Ilia Nouretdinov and Volodya Vovk and Carol S. Saunders and I. Nouretdinov V.. <u>The typicalness framework: a comparison with the Bayesian approach</u>. Department of Computer Science. 2001. [View <u>Context</u>].

Martin H C Law and James T. Kwok. <u>Applying the Bayesian Evidence Framework to u -Support Vector Regression</u>. ECML. 2001. [View Context].

Peter L. Hammer and Alexander Kogan and Bruno Simeone and Sandor Szedm'ak. Rut c o r Research R e p o r t. Rutgers Center for Operations Research Rutgers University. 2001. [View Context].

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Christopher J. Merz and Michael J. Pazzani. <u>A Principal Components Approach to Combining Regression Estimates</u>. Machine Learning, 36. 1999. [View Context].

H. Altay Guvenir and Ilhan Uysal. <u>Regression on feature projections</u>. a Department of Computer Engineering, Bilkent University. 1999. [View Context].

Ayhan Demiriz and Kristin P. Bennett and Mark J. Embrechts. <u>Semi-Supervised Clustering Using Genetic Algorithms</u>. Dept. 1999. [View Context].

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Mauro Birattari and Gianluca Bontempi and Hugues Bersini. <u>Lazy Learning Meets the Recursive Least Squares Algorithm</u>. NIPS. 1998. [View Context].

Sreerama K. Murthy and Simon Kasif and Steven Salzberg. <u>A System for Induction of Oblique Decision Trees</u>. Department of Computer Science Johns Hopkins University. 1994. [View Context].

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S. Sathiya Keerthi. <u>Improvements to SMO Algorithm for SVM Regression</u>. Author for Correspondence: Prof. [<u>View Context</u>].

Jarkko Tikka. AB HELSINKI UNIVERSITY OF TECHNOLOGY Department of Automation and Systems Technology Jarkko Tikka Learning linear dependency trees from multivariate data. Helsinki University of Technology Abstract of Master's thesis Department of Automation and Systems Technology Author Date. [View Context].

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Ayhan Demiriz and Kristin P. Bennett and John Shawe and I. Nouretdinov V.. <u>Linear Programming Boosting via Column Generation</u>. Dept. of Decision Sciences and Eng. Systems, Rensselaer Polytechnic Institute. [View Context].

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[1] Papers were automatically harvested and associated with this data set, in collaboration with Rexa.info



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