Search

○ Repository   ○ Web

View ALL Data Sets

Center for Machine Learning and Intelligent Systems

Airfoil Self-Noise Data Set

Download: Data Folder, Data Set Description

Abstract: NASA data set, obtained from a series of aerodynamic and acoustic tests of two and three-dimensional airfoil blade sections conducted in an anechoic wind tunnel.

Data Set Characteristics:	Multivariate	Number of Instances:	1503	Area:	Physical
Attribute Characteristics:	Real	Number of Attributes:	6	Date Donated	2014-03-04
Associated Tasks:	Regression	Missing Values?	N/A	Number of Web Hits:	23686

Source:

Provide the names, email addresses, institutions, and other contact information of the donors and creators of the data set.
Donor:
Dr Roberto Lopez
robertolopez '@' intelnics.com
Intelnics

Creators:
Thomas F. Brooks, D. Stuart Pope and Michael A. Marcolini
NASA

Data Set Information:

The NASA data set comprises different size NACA 0012 airfoils at various wind tunnel speeds and angles of attack. The span of the airfoil and the observer position were the same in all of the experiments.

Attribute Information:

This problem has the following inputs:
1. Frequency, in Hertzs.
2. Angle of attack, in degrees.
3. Chord length, in meters.
4. Free-stream velocity, in meters per second.
5. Suction side displacement thickness, in meters.

The only output is:
6. Scaled sound pressure level, in decibels.

Relevant Papers:

T.F. Brooks, D.S. Pope, and A.M. Marcolini.
Airfoil self-noise and prediction.
Technical report, NASA RP-1218, July 1989.

K. Lau.
A neural networks approach for aerofoil noise prediction.
Master's thesis, Department of Aeronautics.
Imperial College of Science, Technology and Medicine (London, United Kingdom), 2006.

R. Lopez.
Neural Networks for Variational Problems in Engineering.
PhD Thesis, Technical University of Catalonia, 2008.

Citation Request:

Please refer to the Machine Learning Repository's citation policy

Supported By: In Collaboration With:

About || Citation Policy || Donation Policy || Contact || CML