The data set (and description) can be downloaded here:
http://archive.ics.uci.edu/ml/machine-learning-databases/undocumented/connectionist-bench/vowel/vowel-context.data

Description:

```
                Introduction
                ============

In my work on context-sensitive learning, I used the "Deterding Vowel
Recognition Data", but I found it necessary to reformulate the data.
Implicit in the original data is contextual information on the
speaker's gender and identity. For my work, it was necessary to make
this information explicit. The file "vowel-context.data" adds the
speaker's sex and identity as new features. The format of the data file
is described below.

Peter Turney
peter@ai.iit.nrc.ca

                References
                ==========

P. Turney. "Robust Classification With Context-Sensitive Features."
Proceedings of the Sixth International Conference on Industrial
and Engineering Applications of Artificial Intelligence and Expert
Systems (IEA/AIE-93): 268-276. 1993.

URL: ftp://ai.iit.nrc.ca/pub/ksl-papers/NRC-35074.ps.Z


P. Turney. "Exploiting Context When Learning to Classify."
Proceedings of the European Conference on Machine Learning
(ECML-93): 402-407. 1993.

URL: ftp://ai.iit.nrc.ca/pub/ksl-papers/NRC-35058.ps.Z
```

File Structure

Column	Description
0	Train or Test
1	Speaker Number
2	Sex
3	Feature 0
4	Feature 1
5	Feature 2
6	Feature 3
7	Feature 4
8	Feature 5
9	Feature 6
10	Feature 7
11	Feature 8
12	Feature 9
13	Class

Numerical Codes

Speaker	Code Number
Andrew	0
Bill	1
David	2
Mark	3
Jo	4
Kate	5
Penny	6
Rose	7
Mike	8
Nick	9
Rich	10
Tim	11
Sarah	12
Sue	13
Wendy	14

Set	Number
Train	0
Test	1

Sex	Number
Male	0
Female	1

Class	Number
hid	0
hId	1
hEd	2
hAd	3
hYd	4
had	5
hOd	6
hod	7
hUd	8
hud	9
hed	10

Speaker	Code Number	Sex	Train/Test
Andrew	0	0	0
Bill	1	0	0
David	2	0	0
Mark	3	0	0
Jo	4	1	0
Kate	5	1	0
Penny	6	1	0
Rose	7	1	0
Mike	8	0	1
Nick	9	0	1
Rich	10	0	1
Tim	11	0	1
Sarah	12	1	1
Sue	13	1	1
Wendy	14	1	1

Citation Request:
Please refer to the repository http://archive.ics.uci.edu/ml (see citation policy).
See also Frank, A. & Asuncion, A. (2010). UCI Machine Learning Repository
[http://archive.ics.uci.edu/ml].
Irvine, CA: University of California, School of Information and Computer Science.

Descriptive statistics:

Dataset= vowel_MvsF : n= 990 , d= 13

Class1: n= 528

Covariance matrix:

	[,1]	[,2]	[,3]	[,4]	[,5]	[,6]	[,7]	[,8]	[,9]	[,10]	[,11]	[,12]	[,13]
[1,]	0.2505	2.0038	-0.0834	0.0821	-0.0115	-0.0612	0.0893	-0.0184	0.0330	-0.0330	-0.0529	-0.0546	0.0000
[2,]	2.0038	17.2827	-0.5461	0.6315	-0.0508	-0.5634	0.8658	-0.2462	0.3434	-0.2071	-0.4088	-0.4880	0.0000
[3,]	-0.0834	-0.5461	0.8118	-0.5088	-0.2941	-0.1309	0.0855	0.0474	0.0073	0.0923	-0.0885	-0.0866	-1.7375
[4,]	0.0821	0.6315	-0.5088	1.2556	0.1582	-0.2629	-0.3330	-0.3351	-0.0014	-0.0144	0.2397	0.0591	2.0623
[5,]	-0.0115	-0.0508	-0.2941	0.1582	0.5472	0.0383	-0.1417	-0.2189	-0.0969	-0.0566	0.1868	0.2024	0.8977
[6,]	-0.0612	-0.5634	-0.1309	-0.2629	0.0383	0.4924	-0.0328	0.0867	-0.1012	0.0127	-0.0491	0.0675	-0.0315
[7,]	0.0893	0.8658	0.0855	-0.3330	-0.1417	-0.0328	0.3676	0.1126	0.0688	-0.0631	-0.1678	-0.1463	-0.7607
[8,]	-0.0184	-0.2462	0.0474	-0.3351	-0.2189	0.0867	0.1126	0.3733	0.0424	0.0283	-0.1638	-0.1012	-0.5770
[9,]	0.0330	0.3434	0.0073	-0.0014	-0.0969	-0.1012	0.0688	0.0424	0.1717	-0.0257	-0.0476	-0.0898	-0.2811
[10,]	-0.0330	-0.2071	0.0923	-0.0144	-0.0566	0.0127	-0.0631	0.0283	-0.0257	0.2106	-0.0034	0.0250	-0.0379
[11,]	-0.0529	-0.4088	-0.0885	0.2397	0.1868	-0.0491	-0.1678	-0.1638	-0.0476	-0.0034	0.2885	0.0965	0.7798
[12,]	-0.0546	-0.4880	-0.0866	0.0591	0.2024	0.0675	-0.1463	-0.1012	-0.0898	0.0250	0.0965	0.2689	0.5671
[13,]	0.0000	0.0000	-1.7375	2.0623	0.8977	-0.0315	-0.7607	-0.5770	-0.2811	-0.0379	0.7798	0.5671	10.0190

Correlation matrix:

	[,1]	[,2]	[,3]	[,4]	[,5]	[,6]	[,7]	[,8]	[,9]	[,10]	[,11]	[,12]	[,13]
[1,]	1.0000	0.9631	-0.1849	0.1464	-0.0311	-0.1742	0.2944	-0.0602	0.1589	-0.1437	-0.1969	-0.2104	0.0000
[2,]	0.9631	1.0000	-0.1458	0.1356	-0.0165	-0.1931	0.3435	-0.0969	0.1993	-0.1086	-0.1831	-0.2264	0.0000
[3,]	-0.1849	-0.1458	1.0000	-0.5040	-0.4413	-0.2070	0.1565	0.0862	0.0196	0.2233	-0.1828	-0.1854	-0.6092
[4,]	0.1464	0.1356	-0.5040	1.0000	0.1909	-0.3343	-0.4901	-0.4894	-0.0029	-0.0280	0.3983	0.1017	0.5814
[5,]	-0.0311	-0.0165	-0.4413	0.1909	1.0000	0.0737	-0.3159	-0.4844	-0.3160	-0.1667	0.4700	0.5277	0.3834
[6,]	-0.1742	-0.1931	-0.2070	-0.3343	0.0737	1.0000	-0.0770	0.2021	-0.3479	0.0393	-0.1302	0.1856	-0.0142
[7,]	0.2944	0.3435	0.1565	-0.4901	-0.3159	-0.0770	1.0000	0.3039	0.2737	-0.2266	-0.5151	-0.4653	-0.3964
[8,]	-0.0602	-0.0969	0.0862	-0.4894	-0.4844	0.2021	0.3039	1.0000	0.1676	0.1008	-0.4991	-0.3195	-0.2983
[9,]	0.1589	0.1993	0.0196	-0.0029	-0.3160	-0.3479	0.2737	0.1676	1.0000	-0.1350	-0.2140	-0.4179	-0.2143
[10,]	-0.1437	-0.1086	0.2233	-0.0280	-0.1667	0.0393	-0.2266	0.1008	-0.1350	1.0000	-0.0140	0.1050	-0.0261
[11,]	-0.1969	-0.1831	-0.1828	0.3983	0.4700	-0.1302	-0.5151	-0.4991	-0.2140	-0.0140	1.0000	0.3466	0.4586
[12,]	-0.2104	-0.2264	-0.1854	0.1017	0.5277	0.1856	-0.4653	-0.3195	-0.4179	0.1050	0.3466	1.0000	0.3455
[13,]	0.0000	0.0000	-0.6092	0.5814	0.3834	-0.0142	-0.3964	-0.2983	-0.2143	-0.0261	0.4586	0.3455	1.0000

```
Median:          0.5007 5.5049 -2.9235 1.7224 -0.526  0.5637 -0.5822 0.7309 -0.0554 0.5883  0.0034 -0.208  4.9953

Mean:            0.5    5.5    -2.9803 1.6699 -0.5887 0.5886 -0.531  0.8074 -0.0202 0.5767 -0.0438 -0.246  5
MCD-estimated:
MDC-0.975-Mean:  0.45   5.0767 -2.5109 1.3426 -0.8244 0.6016 -0.4631 0.825   0.0098 0.5845 -0.1444 -0.3825 3
MDC-0.750-Mean:  0.5159 5.7134 -2.5315 1.4633 -0.8073 0.4965 -0.4265 0.8424  0.0078 0.6055 -0.1521 -0.4031 3.1242
MDC-0.500-Mean:  0.5808 6.1078 -2.8884 1.7077 -0.786  0.4062 -0.4314 0.8473  0.0914 0.4699 -0.0901 -0.4441 3.9311

Class2: n= 462

Covariance matrix:
         [,1]    [,2]    [,3]    [,4]    [,5]    [,6]    [,7]    [,8]    [,9]   [,10]   [,11]   [,12]   [,13]
 [1,]  0.2454  1.8407  0.0346  0.0912 -0.0487  0.0531  0.0121  0.0584 -0.0614 -0.0745 -0.0006  0.0919  0.0000
 [2,]  1.8407 14.8076  0.0192  0.8937 -0.4954  0.3621  0.1423  0.4198 -0.4907 -0.6062 -0.0874  0.8986  0.0000
 [3,]  0.0346  0.0192  0.5694 -0.2785 -0.1439 -0.0223 -0.1300  0.0216  0.0420 -0.0774 -0.0119  0.0786 -0.6309
 [4,]  0.0912  0.8937 -0.2785  1.4177 -0.3074 -0.6624 -0.3132 -0.0019  0.2496  0.2919 -0.0161 -0.2901  2.3842
 [5,] -0.0487 -0.4954 -0.1439 -0.3074  0.4458  0.2091  0.0815 -0.1447 -0.1605  0.0351  0.0312  0.0140 -0.5654
 [6,]  0.0531  0.3621 -0.0223 -0.6624  0.2091  0.6607  0.1885 -0.0691 -0.2809 -0.2335  0.0785  0.2196 -1.4070
 [7,]  0.0121  0.1423 -0.1300 -0.3132  0.0815  0.1885  0.4026  0.0503 -0.1393 -0.1593 -0.0996  0.0979 -0.3427
 [8,]  0.0584  0.4198  0.0216 -0.0019 -0.1447 -0.0691  0.0503  0.2786  0.0518 -0.0075 -0.0636 -0.0625  0.0734
 [9,] -0.0614 -0.4907  0.0420  0.2496 -0.1605 -0.2809 -0.1393  0.0518  0.2608  0.0900 -0.0126 -0.1327  0.4993
[10,] -0.0745 -0.6062 -0.0774  0.2919  0.0351 -0.2335 -0.1593 -0.0075  0.0900  0.3229  0.0065 -0.2279  0.9318
[11,] -0.0006 -0.0874 -0.0119 -0.0161  0.0312  0.0785 -0.0996 -0.0636 -0.0126  0.0065  0.2027 -0.0364 -0.2090
[12,]  0.0919  0.8986  0.0786 -0.2901  0.0140  0.2196  0.0979 -0.0625 -0.1327 -0.2279 -0.0364  0.4004 -1.0323
[13,]  0.0000  0.0000 -0.6309  2.3842 -0.5654 -1.4070 -0.3427  0.0734  0.4993  0.9318 -0.2090 -1.0323 10.0217

Correlation matrix:
         [,1]    [,2]    [,3]    [,4]    [,5]    [,6]    [,7]    [,8]    [,9]   [,10]   [,11]   [,12]   [,13]
 [1,]  1.0000  0.9656  0.0926  0.1546 -0.1471  0.1319  0.0385  0.2234 -0.2427 -0.2647 -0.0028  0.2931  0.0000
 [2,]  0.9656  1.0000  0.0066  0.1951 -0.1928  0.1158  0.0583  0.2067 -0.2497 -0.2772 -0.0504  0.3690  0.0000
 [3,]  0.0926  0.0066  1.0000 -0.3100 -0.2856 -0.0363 -0.2715  0.0543  0.1091 -0.1805 -0.0351  0.1647 -0.2641
 [4,]  0.1546  0.1951 -0.3100  1.0000 -0.3867 -0.6845 -0.4145 -0.0030  0.4105  0.4314 -0.0301 -0.3851  0.6325
 [5,] -0.1471 -0.1928 -0.2856 -0.3867  1.0000  0.3853  0.1924 -0.4107 -0.4706  0.0924  0.1038  0.0331 -0.2675
 [6,]  0.1319  0.1158 -0.0363 -0.6845  0.3853  1.0000  0.3655 -0.1611 -0.6766 -0.5056  0.2144  0.4269 -0.5468
 [7,]  0.0385  0.0583 -0.2715 -0.4145  0.1924  0.3655  1.0000  0.1501 -0.4299 -0.4417 -0.3486  0.2439 -0.1706
 [8,]  0.2234  0.2067  0.0543 -0.0030 -0.4107 -0.1611  0.1501  1.0000  0.1920 -0.0251 -0.2677 -0.1873  0.0439
 [9,] -0.2427 -0.2497  0.1091  0.4105 -0.4706 -0.6766 -0.4299  0.1920  1.0000  0.3101 -0.0549 -0.4106  0.3088
[10,] -0.2647 -0.2772 -0.1805  0.4314  0.0924 -0.5056 -0.4417 -0.0251  0.3101  1.0000  0.0253 -0.6339  0.5180
[11,] -0.0028 -0.0504 -0.0351 -0.0301  0.1038  0.2144 -0.3486 -0.2677 -0.0549  0.0253  1.0000 -0.1278 -0.1467
[12,]  0.2931  0.3690  0.1647 -0.3851  0.0331  0.4269  0.2439 -0.1873 -0.4106 -0.6339 -0.1278  1.0000 -0.5153
[13,]  0.0000  0.0000 -0.2641  0.6325 -0.2675 -0.5468 -0.1706  0.0439  0.3088  0.5180 -0.1467 -0.5153  1.0000
```

```
Median:          0.3587 8.2849 -3.4217 2.1937 -0.4829 0.3294 -0.1385 0.41   0.0857 0.0998 -0.6072  0.12   5.0087

Mean:            0.4286 8.7143 -3.4591 2.1239 -0.4153 0.4319 -0.0481 0.4278 0.0137 0.0621 -0.5992  0.1282 5
MCD-estimated:
MDC-0.975-Mean:  0      5.5    -3.5196 1.9647 -0.3303 0.3392 -0.0692 0.3258 0.121  0.1922 -0.5981 -0.0322 5
MDC-0.750-Mean:  0      5.5    -3.5196 1.9647 -0.3303 0.3392 -0.0692 0.3258 0.121  0.1922 -0.5981 -0.0322 5
MDC-0.500-Mean:  0      5.5    -3.5196 1.9647 -0.3303 0.3392 -0.0692 0.3258 0.121  0.1922 -0.5981 -0.0322 5

Measures:
Mah.Dist:                      3.9868
Mah.Dist-MCD-0.975:            4.281
Mah.Dist-MCD-0.750:            4.0891
Mah.Dist-MCD-0.500:            4.0898
```