

## Project 1

### Option 1: Speech data classification (Speech\_data.zip)

The training data belongs to 20 Parkinson's Disease (PD) patients and 20 healthy subjects. From all subjects, multiple types of sound recordings (26) are taken

Training Data File:

column 1: Subject id

column 2-27: features

features 1-5: Jitter (local),Jitter (local, absolute),Jitter (rap),Jitter (ppq5),Jitter (ddp),

features 6-11: Shimmer (local),Shimmer (local, dB),Shimmer (apq3),Shimmer (apq5), Shimmer (apq11),Shimmer (dda),

features 12-14: AC,NTH,HTN,

features 15-19: Median pitch,Mean pitch,Standard deviation,Minimum pitch,Maximum pitch,

features 20-23: Number of pulses,Number of periods,Mean period,Standard deviation of period,

features 24-26: Fraction of locally unvoiced frames,Number of voice breaks,Degree of voice breaks

column 28: UPDRS

column 29: class information

Test Data File:

column 1: Subject id

column 2-27: features

features 1-5: Jitter (local),Jitter (local, absolute),Jitter (rap),Jitter (ppq5),Jitter (ddp),

features 6-11: Shimmer (local),Shimmer (local, dB),Shimmer (apq3),Shimmer (apq5), Shimmer (apq11),Shimmer (dda),

features 12-14: AC,NTH,HTN,

features 15-19: Median pitch,Mean pitch,Standard deviation,Minimum pitch,Maximum pitch,

features 20-23: Number of pulses,Number of periods,Mean period,Standard deviation of period,

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column 28: class information

### Option 2: Voice Changer

Record a segment of your own voice (or you can find any voice segment from internet), and as we know each person has a specific voice pattern (frequency pattern), can you modify this pattern and make it sound like a different person? (e.g., man -> woman, adult -> child, etc.)

**Option 3:** Present one paper for speech data analysis, and you can choose any paper published within two years.