



# A categorization of robust speech processing datasets

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## A categorization of robust speech processing datasets

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TR2014-116 August 2014

### Abstract

Speech and audio signal processing research is a tale of data collection efforts and evaluation campaigns. While large datasets for automatic speech recognition (ASR) in clean environments with various speaking styles are available, the landscape is not as picture-perfect when it comes to robust ASR in realistic environments, much less so for evaluation of source separation and speech enhancement methods. Many data collection efforts have been conducted, moving along towards more and more realistic conditions, each making different compromises between mostly antagonistic factors: financial and human cost; amount of collected data; availability and quality of annotations and ground truth; naturalness of mixing conditions; naturalness of speech content and speaking style; naturalness of the background noise; etc. In order to better understand what directions need to be explored to build datasets that best support the development and evaluation of algorithms for recognition, separation or localization that can be used in real-world applications, we present here a study of existing datasets in terms of their key attributes.

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# A categorization of robust speech processing datasets

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## Abstract

Speech and audio signal processing research is a tale of data collection efforts and evaluation campaigns. While large datasets for automatic speech recognition (ASR) in clean environments with various speaking styles are available, the landscape is not as picture-perfect when it comes to robust ASR in realistic environments, much less so for evaluation of source separation and speech enhancement methods. Many data collection efforts have been conducted, moving along towards more and more realistic conditions, each making different compromises between mostly antagonistic factors: financial and human cost; amount of collected data; availability and quality of annotations and ground truth; naturalness of mixing conditions; naturalness of speech content and speaking style; naturalness of the background noise; etc. In order to better understand what directions need to be explored to build datasets that best support the development and evaluation of algorithms for recognition, separation or localization that can be used in real-world applications, we present here a study of existing datasets in terms of their key attributes.

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}
```

## 1 List of robust speech processing datasets

This technical report aims to provide a list of speech datasets with detailed attributes and links to software baselines and evaluation results. Each dataset may be used for one or more applications: automatic speech

recognition, speaker identification and verification, source localization, speech enhancement and separation...

The core of the report is Table 1, which compares a wide range of datasets for robust speech processing based on their key attributes<sup>1</sup>. A list of links relevant to each dataset (to download/purchase, obtain baselines and results, etc.) is provided separately in Table 2.

Only datasets that are publicly available, (at least partially) annotated, suitable for research on robustness, and longer than 5 min are listed. Other relevant datasets are listed in Section 2.

The list of considered attributes and their meaning is detailed below.

### General attributes

- year of release
- scenario: car, cocktail party, domestic, lecture, meeting, office, public space, TV...
- total duration (h) (multiple channels counted only once)
- sampling rate (kHz)
- number of distant or noisy microphones
- number of video cameras
- cost for non-members of ELRA and LDC (cost for members is lower or free)
- links: download data, reference papers, software baselines, evaluation results...

### Speech attributes

- duration of speech (h) (overlapping speech counted only once)
- number of unique speakers
- language
- number of unique words (differs from assumed vocabulary size, which is somewhat arbitrary)
- speaking style: digits, command, read, spontaneous...
- number of speakers present in the room
- type of speaker overlap: no overlap, simulated overlap, dialogue, meeting, full overlap...

### Channel attributes

- channel type: none, simulated room impulse response, convolution by a recorded room impulse response, reverberant recording...
- speaker radiation: loudspeaker, dummy head with mouth simulator, human...
- speaker location: at a fixed position in the room, at a quasi-fixed position (e.g., seated), at different positions...
- speaker movements: no movement, head movements, walking...

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<sup>1</sup>A maintained version of this table is available on the wiki of ISCA's Special Interest Group (SIG) on Robust Speech Processing: <https://wiki.inria.fr/rosp/>. This report is frequently updated to reflect changes on the wiki.

### **Noise attributes**

- noise type: stationary background noise (e.g., air-conditioning), car noise, meeting noises, domestic noises, outdoor noises...

### **Available ground truth**

- reference speech signal: original (at the mouth), headset or lapel (slightly differs from the signal at the mouth), spatial image (at the microphones)...
- speaker location and orientation
- words uttered
- paralinguistic attributes: nodding, gaze, communication intent, emotion...
- noise events: type and time of individual noise events

Table 1: Comparison of robust speech processing datasets

Datasets	rel. year	use case	General attributes						Speech						Channel			Noise		Ground truth								
			total time (h)	sam. rate (kHz)	dist. or noisy mics	video cams	cost (non-memb.)								lang.													
ShATR [1]	1994	meeting	0.6	48	3	no	free		0.6	5	UK English	1	spontaneous	5	multiple dialogs	reverb	human	quasi-fixed	head	meeting	high	headset	yes	yes	no	yes		
LLSEC	1996	dialog	1.4	16	4	no	free		?	12	N/S	N/S	read, spontaneous	2	dialog	reverb	human	quasi-fixed	head	hallway, restaurant (scenarized)	medium	no	yes	no	no	no		
RWCP Spoken Dialog Corpus [2]	1996 - 1997	dialog	10	16	2	no	free		10	39	Japanese	?	spontaneous	1 - 2	dialog	reverb (low)	human	quasi-fixed	head	stationary background	high	no	no	yes	no	no		
Aurora-2 [3]	2000	public spaces	33	8 - 16	1	no	free given TIDigits (0.5 k\$)		33	214	US English	0.01	digits	1	no	simulated phone	human	N/S	no	various real environments (added)	low	original	N/S	yes	no	yes		
SPINE1, SPINE2 [4]	2000 - 2001	military	38	16	2	no	7.4 k\$		?	100	US English	1	command, spontaneous	1 - 2	no	simulated radio	human	quasi-fixed	head	military (added)	low	no	no	yes	no	no		
Aurora-3 (subset of SpeechDat-Car) [5]	2000 - 2003	car	?	16	4	no	1 k		?	730	various	0.01	digits	1	no	reverb	human	quasi-fixed	head	car	low	headset	no	yes	no	no		
RWCP Meeting Speech Corpus [6]	2001	meeting	3.5	16 - 48	1	3	free		3.5	?	Japanese	?	spontaneous	1 - 5	meeting	reverb (low)	human	quasi-fixed	head	stationary background	high	headset	no	yes	no	no		
RWCP Real Environment Speech and Acoustic Database [7]	2001	domestic, office	?	16 - 48	84	no	free		?	5	US English, Japanese	?	read	1	no	real rir, reverb	loudspeaker	various	no, pivoting arm	various (sum of events)	medium	original	yes	yes	no	yes		
SpeechDat-Car [8]	2001 - 2011	car	?	16	4	no	39 - 182 k per lang		?	300 per lang	various	?	digits, command, read, spontaneous	1	no	reverb	human	quasi-fixed	head	car	low	headset	no	yes	no	no		
Aurora-4 [9]	2002	public spaces	?	8 - 16	1	no	free given WSJ0 (1.5 k\$)		?	101	US English	10	read	1	no	simulated phone	human	N/S	no	various real environments (added)	low	original	N/S	yes	no	yes		
TED [10]	2002	seminar	47	16	1	no	0.5 k\$		47	188	non-native English	?	lecture	1 or more	seminar	reverb	human	quasi-fixed	head	stationary background	high	lapel	no	partial	no	no		
CUAVE [11]	2002	speech overlap	3	44	1	1	free		3	36	US English	0.01	digits	1 - 2	full	reverb	human	quasi-fixed	head	car	low	no	yes	no	no	no		
CU-Move Microphone Array Data [12]	2002 - 2011	car	286	44	6 - 8	no	25 k\$		286	172	US English	12	digits, command, read, dialog	1	no	reverb	human	quasi-fixed	head	car	low	no	yes	no	no	yes		
CENSREC-1 (Aurora-2J) [13]	2003	public spaces	?	8	1	no	free		?	214	Japanese	0.01	digits	1	no	simulated phone	human	N/S	no	various real environments (added)	low	original	N/S	yes	no	yes		
AVICAR [14]	2004	car	29	16	7	4	free		29	86	US English, non-native English	1	read	1	no	reverb	human	quasi-fixed	head	car	low	no	yes	no	no	no		
AV16.3 [15]	2004	meeting	1.5	16	16	3	free		1.5	12	N/S	N/S	spontaneous	1 - 3	full	reverb	human	various	head, walk	stationary background	high	no	partial	no	no	no		
ICSI Meeting Corpus [16]	2004	meeting	72	16	6	no	2.8 k\$		72	53	US English, other English	13	meeting	3 - 10	meeting	reverb	human	quasi-fixed	head	meeting	high	headset, lapel	no	yes	yes	ad-hoc	no	
NIST Meeting Pilot Corpus Speech [17]	2004	meeting	15	16	7	no	5.5 k\$		15	61	US English	6	meeting	3 - 9	meeting	reverb	human	various	head, walk	stationary background	high	headset, lapel	no	yes	no	no	no	
CHIL Meetings [18]	2004 - 2007	seminar, meeting	60	44	79 - 147	6 - 9	3.5 k		?	?	non-native English	?	seminar, meeting	3 - 20	seminar, meeting	reverb	human	quasi-fixed	head	meeting (scenarized)	high	headset	yes	yes	yes	no	no	
SPEECON [19]	2004 - 2011	public space, domestic, office, car	?	16	3	no	75 k per lang		?	600 per lang	various	?	command, read, spontaneous	1	no	reverb	human	quasi-fixed	head	various real environments	medium	headset	no	yes	no	no	no	
CENSREC-2 [20]	2005	car	?	16	1	no	free		?	214	Japanese	0.01	digits	1	no	reverb	human	quasi-fixed	head	car	low	headset	no	yes	no	no	no	
CENSREC-3 [21]	2005	car	?	16	1	no	21 k		?	311	Japanese	0.05	read	1	no	reverb	human	quasi-fixed	head	car	low	headset	no	yes	no	no	no	
Aurora-5 [22]	2006	public spaces, domestic, office, car	?	8	1	no	free given TIDigits (0.5 k\$)		?	225	US English	0.01	digits	1	no	no	no	no, simulated rir, real rir	loudspeaker	fixed	no	various real environments (added)	low	original	no	yes	no	yes
AMI [23]	2006	meeting	100	16	16	6	free		?	189	UK English, other English	8	meeting	most often 4	meeting (18% overlap)	reverb	human	quasi-fixed	head	stationary background	high	headset, lapel	yes	yes	yes	no	no	
PASCAL SSC [24]	2006	speech overlap	8.8	25	1	no	free		8.8	34	UK English	0.05	command	2	full	no	human	N/S	no	no	original	N/S	yes	no	no	no	no	
Hewire [25]	2007	airplane	21	16	1	no	0.05 k		21	81	non-native English	0.1	command	1	no	no	human	N/S	no	airplane (added)	low	original	N/S	yes	no	no	no	
NOIZEUS [26]	2007	public spaces	0.6	8	1	no	free		0.6	6	US English	0.1	read	1	no	simulated phone	human	N/S	no	various real environments (added)	low	original	N/S	no	no	no	no	
UT-Drive [27]	2007	car	40	25	5	2	25 k\$		40	25	US English	2.4	command, dialog	1 - 2	dialog	reverb	human	quasi-fixed	head	car	low	headset (low quality)	no	partial	no	no	no	
SASSEC, SiSEC under-determined [28]	2007 - 2011	cocktail party	0.3	16	2	no	free		0.3	16	N/S	N/S	read	3 - 4	full	simulated rir, real rir, reverb	no, loudspeaker	fixed	no	no	original, spatial image	yes	no	no	no	no		
MC-WSJ-AV, PASCAL SSC2, 2012_MMA, REVERB RealData [29] [30]	2007 - 2014	speech overlap	10	16	8 - 40	partial	1.5 k\$		?	45	UK English	10	read	1 - 2	full	reverb	human	various	head, walk	stationary background	high	headset, lapel	yes	yes	no	no	no	
CENSREC-4 (Simulated) [31]	2008	public spaces, domestic, office, car	?	16	1	no	free		?	214	Japanese	0.01	digits	1	no	real rir	dummy	fixed	no	various real environments (added)	low	original	no	yes	no	yes	yes	
CENSREC-4 (Real) [31]	2008	public spaces, domestic, office, car	?	16	1	no	free		?	10	Japanese	0.01	digits	1	no	reverb	human	quasi-fixed	head	various real environments	low	headset	no	yes	no	yes	yes	
DICIT [32]	2008	domestic	6	48	16	2	free	</td																				

Table 2: Miscellaneous links for each dataset

Datasets	Links
ShATR	download: <a href="http://spandh.dcs.shef.ac.uk/projects/shatrweb/">http://spandh.dcs.shef.ac.uk/projects/shatrweb/</a>
LLSEC	download: <a href="https://www.ll.mit.edu/mission/cybersec/HLT/corpora/SpeechCorpora.html">https://www.ll.mit.edu/mission/cybersec/HLT/corpora/SpeechCorpora.html</a>
RWCP Spoken Dialog Corpus	download: <a href="http://research.nii.ac.jp/src/en/RWCP-SP96.html">http://research.nii.ac.jp/src/en/RWCP-SP96.html</a>
Aurora-2	purchase (incl. HTK): <a href="http://catalog.elra.info/product_info.php?cPath=37_40&amp;products_id=693">http://catalog.elra.info/product_info.php?cPath=37_40&amp;products_id=693</a> features: <a href="http://aurora.hsnr.de/download.html">http://aurora.hsnr.de/download.html</a>
SPINE1, SPINE2	purchase: <a href="https://catalog.ldc.upenn.edu/search?q%5Bname_cont%5D=SPINE">https://catalog.ldc.upenn.edu/search?q%5Bname_cont%5D=SPINE</a>
Aurora-3 (subset of SpeechDat- Car)	purchase (incl. HTK): <a href="http://catalog.elra.info/index.php?cPath=37_40">http://catalog.elra.info/index.php?cPath=37_40</a>
RWCP Meeting Speech Corpus	download: <a href="http://research.nii.ac.jp/src/en/RWCP-SP01.html">http://research.nii.ac.jp/src/en/RWCP-SP01.html</a>
RWCP Real Environment Speech and Acoustic Database	download: <a href="http://research.nii.ac.jp/src/en/RWCP-SSD.html">http://research.nii.ac.jp/src/en/RWCP-SSD.html</a>
SpeechDat- Car	purchase: <a href="http://catalog.elra.info/search.php">http://catalog.elra.info/search.php</a>
Aurora-4	purchase: <a href="http://catalog.elra.info/index.php?cPath=37_40">http://catalog.elra.info/index.php?cPath=37_40</a> HTK: <a href="http://www.keithv.com/software/htk/">http://www.keithv.com/software/htk/</a>
TED	purchase: <a href="https://catalog.ldc.upenn.edu/LDC2002S04">https://catalog.ldc.upenn.edu/LDC2002S04</a>
CUAVE	download: <a href="http://www.clemson.edu/ces/speech/cuave.htm">http://www.clemson.edu/ces/speech/cuave.htm</a>
CU-Move Microphone Array Data	purchase: <a href="http://crss.utdallas.edu/">http://crss.utdallas.edu/</a>
CENSREC-1 (Aurora-2J)	download: <a href="http://research.nii.ac.jp/src/en/CENSREC-1.html">http://research.nii.ac.jp/src/en/CENSREC-1.html</a>
AVICAR	download: <a href="http://www.isle.illinois.edu/sst/AVICAR/">http://www.isle.illinois.edu/sst/AVICAR/</a>
AV16.3	download: <a href="http://www.idiap.ch/dataset/av16-3/">http://www.idiap.ch/dataset/av16-3/</a>
ICSI Meeting Corpus	purchase: <a href="https://catalog.ldc.upenn.edu/search?q%5Bname_cont%5D=ICSI">https://catalog.ldc.upenn.edu/search?q%5Bname_cont%5D=ICSI</a> info: <a href="http://www1.icsi.berkeley.edu/Speech/mr/">http://www1.icsi.berkeley.edu/Speech/mr/</a>
NIST Meeting Pilot Corpus Speech	purchase: <a href="https://catalog.ldc.upenn.edu/search?q%5Bname_cont%5D=NIST%20Meeting">https://catalog.ldc.upenn.edu/search?q%5Bname_cont%5D=NIST%20Meeting</a>
CHIL Meetings	purchase: <a href="http://catalog.elra.info/search.php">http://catalog.elra.info/search.php</a>
SPEECON	purchase: <a href="http://catalog.elra.info/search.php">http://catalog.elra.info/search.php</a>
CENSREC-2	download: <a href="http://research.nii.ac.jp/src/en/CENSREC-2.html">http://research.nii.ac.jp/src/en/CENSREC-2.html</a>
CENSREC-3	purchase: <a href="http://research.nii.ac.jp/src/en/CENSREC-3.html">http://research.nii.ac.jp/src/en/CENSREC-3.html</a>

Aurora-5	<a href="http://catalog.elra.info/product_info.php?cPath=37_40&amp;products_id=1015">purchase (incl. HTK): <a href="http://catalog.elra.info/product_info.php?cPath=37_40&amp;products_id=1015">http://catalog.elra.info/product_info.php?cPath=37_40&amp;products_id=1015</a></a>
AMI	<a href="http://groups.inf.ed.ac.uk/ami/">download: <a href="http://groups.inf.ed.ac.uk/ami/">http://groups.inf.ed.ac.uk/ami/</a></a>
PASCAL SSC	<a href="http://staffwww.dcs.shef.ac.uk/people/M.Cooke/SpeechSeparationChallenge.htm">download: <a href="http://staffwww.dcs.shef.ac.uk/people/M.Cooke/SpeechSeparationChallenge.htm">http://staffwww.dcs.shef.ac.uk/people/M.Cooke/SpeechSeparationChallenge.htm</a></a>
HIWIRE	<a href="http://catalog.elra.info/product_info.php?products_id=1088&amp;language=en">purchase: <a href="http://catalog.elra.info/product_info.php?products_id=1088&amp;language=en">http://catalog.elra.info/product_info.php?products_id=1088&amp;language=en</a></a>
NOIZEUS	<a href="http://ecs.utdallas.edu/loizou/speech/noizeus/">download: <a href="http://ecs.utdallas.edu/loizou/speech/noizeus/">http://ecs.utdallas.edu/loizou/speech/noizeus/</a></a>
UT-Drive	<a href="http://crss.utdallas.edu/">download: <a href="http://crss.utdallas.edu/">http://crss.utdallas.edu/</a></a>
SASSEC, SiSEC under-determined	<a href="http://sisec2011.wiki.irisa.fr/tiki-index.php?page=Underdetermined+speech+and+music+mixtures">download: <a href="http://sisec2011.wiki.irisa.fr/tiki-index.php?page=Underdetermined+speech+and+music+mixtures">http://sisec2011.wiki.irisa.fr/tiki-index.php?page=Underdetermined+speech+and+music+mixtures</a></a>
MC-WSJ-AV, PASCAL SSC2, 2012_MMA, REVERB RealData	<a href="https://catalog.ldc.upenn.edu/LDC2014S03">purchase: <a href="https://catalog.ldc.upenn.edu/LDC2014S03">https://catalog.ldc.upenn.edu/LDC2014S03</a></a>  <a href="http://www.cstr.ed.ac.uk/corpora/2012_MMA/">info: <a href="http://www.cstr.ed.ac.uk/corpora/2012_MMA/">http://www.cstr.ed.ac.uk/corpora/2012_MMA/</a></a> <a href="http://scholar.google.co.uk/citations?view_op=view_citation&amp;hl=en&amp;user=8J_nG0wAAAAJ&amp;citation_for_view=8J_nG0wAAAAJ:08ZZubdj9fEC">video: <a href="http://scholar.google.co.uk/citations?view_op=view_citation&amp;hl=en&amp;user=8J_nG0wAAAAJ&amp;citation_for_view=8J_nG0wAAAAJ:08ZZubdj9fEC">http://scholar.google.co.uk/citations?view_op=view_citation&amp;hl=en&amp;user=8J_nG0wAAAAJ&amp;citation_for_view=8J_nG0wAAAAJ:08ZZubdj9fEC</a></a> <a href="http://reverb2014.dereverberation.com/tools/REVERB_TOOLS_FOR_ASR_ver2.0.tgz">HTK: <a href="http://reverb2014.dereverberation.com/tools/REVERB_TOOLS_FOR_ASR_ver2.0.tgz">http://reverb2014.dereverberation.com/tools/REVERB_TOOLS_FOR_ASR_ver2.0.tgz</a></a> <a href="http://www.mmk.ei.tum.de/~wen/REVERB_2014/kaldi_baseline.tar.gz">Kaldi: <a href="http://www.mmk.ei.tum.de/~wen/REVERB_2014/kaldi_baseline.tar.gz">http://www.mmk.ei.tum.de/~wen/REVERB_2014/kaldi_baseline.tar.gz</a></a> <a href="http://reverb2014.dereverberation.com/result_se.html">results: <a href="http://reverb2014.dereverberation.com/result_se.html">http://reverb2014.dereverberation.com/result_se.html</a></a> <a href="http://reverb2014.dereverberation.com/result_asr.html">results: <a href="http://reverb2014.dereverberation.com/result_asr.html">http://reverb2014.dereverberation.com/result_asr.html</a></a>
CENSREC-4 (Simulated)	<a href="http://research.nii.ac.jp/src/en/CENSREC-4.html">download: <a href="http://research.nii.ac.jp/src/en/CENSREC-4.html">http://research.nii.ac.jp/src/en/CENSREC-4.html</a></a>
CENSREC-4 (Real)	<a href="http://research.nii.ac.jp/src/en/CENSREC-4.html">download: <a href="http://research.nii.ac.jp/src/en/CENSREC-4.html">http://research.nii.ac.jp/src/en/CENSREC-4.html</a></a>
DICIT	<a href="http://shine.fbk.eu/resources/dicit-acoustic-woz-data">download: <a href="http://shine.fbk.eu/resources/dicit-acoustic-woz-data">http://shine.fbk.eu/resources/dicit-acoustic-woz-data</a></a>
SiSEC head-geometry	<a href="http://sisec2008.wiki.irisa.fr/tiki-index.php?page=Head-geometry%20mixtures%20of%20two%20speech%20sources%20in%20real%20environments,%20impinging%20from%20many%20directions">download: <a href="http://sisec2008.wiki.irisa.fr/tiki-index.php?page=Head-geometry%20mixtures%20of%20two%20speech%20sources%20in%20real%20environments,%20impinging%20from%20many%20directions">http://sisec2008.wiki.irisa.fr/tiki-index.php?page=Head-geometry%20mixtures%20of%20two%20speech%20sources%20in%20real%20environments,%20impinging%20from%20many%20directions</a></a>
COSINE	<a href="http://melodi.ee.washington.edu/cosine/">download: <a href="http://melodi.ee.washington.edu/cosine/">http://melodi.ee.washington.edu/cosine/</a></a>
SiSEC real-world noise	<a href="http://sisec2010.wiki.irisa.fr/tiki-index.php?page=Source+separation+in+the+presence+of+real-world+background+noise">download: <a href="http://sisec2010.wiki.irisa.fr/tiki-index.php?page=Source+separation+in+the+presence+of+real-world+background+noise">http://sisec2010.wiki.irisa.fr/tiki-index.php?page=Source+separation+in+the+presence+of+real-world+background+noise</a></a>
SiSEC dynamic	<a href="http://sisec2010.wiki.irisa.fr/tiki-index.php?page=Determined+convolutive+mixtures+under+dynamic+conditions">download: <a href="http://sisec2010.wiki.irisa.fr/tiki-index.php?page=Determined+convolutive+mixtures+under+dynamic+conditions">http://sisec2010.wiki.irisa.fr/tiki-index.php?page=Determined+convolutive+mixtures+under+dynamic+conditions</a></a>

CHiME 1, CHiME 2 Grid	<b>download:</b> <a href="http://spandh.dcs.shef.ac.uk/chime_challenge/chime2_task1.html">http://spandh.dcs.shef.ac.uk/chime_challenge/chime2_task1.html</a> <b>HTK:</b> <a href="http://spandh.dcs.shef.ac.uk/chime_challenge/chime2_task1.html#tools">http://spandh.dcs.shef.ac.uk/chime_challenge/chime2_task1.html#tools</a> <b>results:</b> <a href="http://spandh.dcs.shef.ac.uk/projects/chime/PCC/results.html">http://spandh.dcs.shef.ac.uk/projects/chime/PCC/results.html</a> <b>results:</b> <a href="http://spandh.dcs.shef.ac.uk/chime_challenge/track1_results.html">http://spandh.dcs.shef.ac.uk/chime_challenge/track1_results.html</a>
CHiME 2 WSJ0	<b>download:</b> <a href="http://spandh.dcs.shef.ac.uk/chime_challenge/chime2_task2.html">http://spandh.dcs.shef.ac.uk/chime_challenge/chime2_task2.html</a> <b>HTK:</b> <a href="http://spandh.dcs.shef.ac.uk/chime_challenge/chime2_task2.html#tools">http://spandh.dcs.shef.ac.uk/chime_challenge/chime2_task2.html#tools</a> <b>Kaldi:</b> <a href="http://spandh.dcs.shef.ac.uk/chime_challenge/WSJ0public/CHiME2012-WSJ0-Kaldi_0.03.tar.gz">http://spandh.dcs.shef.ac.uk/chime_challenge/WSJ0public/CHiME2012-WSJ0-Kaldi_0.03.tar.gz</a> <b>results:</b> <a href="http://spandh.dcs.shef.ac.uk/chime_challenge/track2_results.html">http://spandh.dcs.shef.ac.uk/chime_challenge/track2_results.html</a>
ETAPE	<b>download:</b> <a href="http://www.afcp-parole.org/etape.html">http://www.afcp-parole.org/etape.html</a>
GALE	<b>purchase:</b> <a href="https://catalog.ldc.upenn.edu/search?q%5Bname_cont%5D=GALE">https://catalog.ldc.upenn.edu/search?q%5Bname_cont%5D=GALE</a>
REVERB SimData	<b>purchase:</b> <a href="http://reverb2014.dereverberation.com/">http://reverb2014.dereverberation.com/</a> <b>HTK:</b> <a href="http://reverb2014.dereverberation.com/tools/REVERB_TOOLS_FOR_ASR_ver2.0.tgz">http://reverb2014.dereverberation.com/tools/REVERB_TOOLS_FOR_ASR_ver2.0.tgz</a> <b>Kaldi:</b> <a href="http://www.mmk.ei.tum.de/~wen/REVERB_2014/kaldi_baseline.tar.gz">http://www.mmk.ei.tum.de/~wen/REVERB_2014/kaldi_baseline.tar.gz</a> <b>results:</b> <a href="http://reverb2014.dereverberation.com/result_se.html">http://reverb2014.dereverberation.com/result_se.html</a> <b>results:</b> <a href="http://reverb2014.dereverberation.com/result_asr.html">http://reverb2014.dereverberation.com/result_asr.html</a>
Sheffield Wargames Corpus	<b>download:</b> <a href="http://mini.dcs.shef.ac.uk/data-2/">http://mini.dcs.shef.ac.uk/data-2/</a>
DIRHA	<b>download:</b> <a href="http://shine.fbk.eu/resources/dirha-ii-simulated-corpus">http://shine.fbk.eu/resources/dirha-ii-simulated-corpus</a>

## 2 Other datasets

The following datasets were considered but not included in the table for the reasons described below:

- BABEL<sup>2</sup> (not yet available)
- Broadcast news, HUB4<sup>3</sup> (no noise and 4.5 % speaker overlap, less than ETAPE)
- CIAIR In-Car Speech Database [39] (availability unknown)
- Dyrholm/Sawada/Parra<sup>4</sup> (about 1 min long)

<sup>2</sup><http://www.iarpa.gov/index.php/research-programs/babel>

<sup>3</sup><https://catalog.ldc.upenn.edu/byproject>

<sup>4</sup><http://bme.ccny.cuny.edu/faculty/parra/bss/>

- NEMISIG [40] (unavailable)
- RATS<sup>5</sup> (not yet available)
- Rich Transcription (RT) (dataset gathered from other sets, e.g. CHIL, ICSI, ISL, AMI...)
- Settlers of Catan<sup>6</sup> [41] (unannotated)
- Flying MEMS microphone array<sup>7</sup> [41] (unannotated)

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<sup>5</sup>[http://www.darpa.mil/Our\\_Work/I2O/Programs/Robust\\_Automatic\\_Transcription\\_of\\_Speech\\_%28RATS%29.aspx](http://www.darpa.mil/Our_Work/I2O/Programs/Robust_Automatic_Transcription_of_Speech_%28RATS%29.aspx)

<sup>6</sup><http://meetingdiarisation.wordpress.com/2013/05/09/ready-for-recording-settlers-of-cattan-with-the-dmma-2-and-dmma-3/>

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