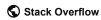
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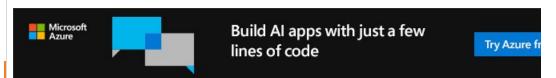
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## Pocketsphinx - Adding words and Improving accuracy

Ask Question



I've managed to finally build and run pocketsphinx

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(pocketsphinx\_continuous). The problem I'm running into, is how to a improve accuracy. From what I understand, you can specify a dictionary file (-dict test.dic). So I took



the default dictionary file and added some more pronunciations of the same words, for example:

```
pencil P EH N S AH L
pencil(2) P EH N S IH L
```

spaghetti S P AH G EH T IY
spaghetti(2) S P UH G EH T IY

Yet pocketsphinx still does not recognize either word at all. I know there is a jsgf file you can specify as well , but that seems more for phrases and grammar. How can I get pocketsphinx to recognize common words such as pencil and spaghetti?

thanks

-Mike

sphinx speech-recognition speech-to-text

edited Aug 13 '13 at 20:25 f3lix

24k 10 56 78

asked Dec 26 '10 at 20:02

Mike6679 2,060 12 46 86

Anyone? anyone?..... – Mike6679 Dec 29 '10 at 18:37 Android. I want to do the same thing and I am having problem to build "PocketSphinxAndroidDemo" downloaded from cmusphinx.sourceforge.net. Could you share your experience and list the steps on how you did it? What's "pocketsphinx continuous"? Is that a different branch of pocketsphinx? Thanks! gwofu – user602410 Feb 4 '11 at 1:04

user602410: pocketsphinx continuous is a program included with the pocketsphinx distribution. -Jeremy Salwen May 18 '11 at 4:02

## 5 Answers



8

With something like this, you can't be certain, but I can offer the following suggestions:







- 1. Perhaps the language model somehow has low probabilities for "spaghetti" and "pencil". As you suggested, you could use a JSGF to test out how it does for recognition if it doesn't use the N-gram models, but instead does a simple grammar (give it like twenty words, including spaghetti and pencil). This way you can see if it is perhaps the language model which makes it difficult to recognize these words, and it can do okay if it considers all the words to have equal probability.
- 2. Perhaps you simply pronounce these words poorly, even with the alternative dictionary entries. Try either A. Testing other peoples' voices, or B. Adapting the acoustic model to your voice http://cmusphinx.sourceforge.net /wiki/tutorialam)
- 3. Also, what is it recognizing them as when it is failing? If possible, remove the words it misrecognizes as from the dictionary.

Again, for overall accuracy, only

adapting the accoustic model, and perhaps getting higher quality recording input.

Jeremy Salwen 4,885 2 35 59

```
if (dev.isBored() || job.sucks()) {
    searchJobs({flexibleHours: true, compa
}

// A career site that's by developers, for
```



To improve accuracy you may want to try adapting the acoustic model to your voice.



http://cmusphinx.sourceforge.net/wiki/tutorialadapt

To learn how to add new words: http://ghatage.com/tech/2012/12/13/ Make-Pocketsphinx-recognize-newwords/

edited Jan 20 '17 at 17:49



Rosário Pereira Fernandes

**6,022** 6 23 52

answered Dec 25 '12 at 7:39



Anup

**99** 1 4

The link to learn how to add new words gives a 404. Do you know if we can find it anywhere else? – Edu Zamora Aug 19 '14 at 9:28

Not to revive a dead thread, but the URL appears to be: ghatage.com/2012/12/13/Make-Pocketsphinx-recognize-new-words – OldWolf Sep 21 '15 at 15:07

The correct link is - ghatage.com/tech/2012/12/13/....
Seems like the permalink structure was changed. – sabergeek Sep 14
'16 at 6:26



Make sure you put a tab (not a space) after the word and before the start of the pronunciation.

2



2

May be the problem is with Pocketsphinx. I too was not getting good results with Pocketsphinx. But I was getting very good accuracy with Sphinx4 (for a US speaker with a noise-cancelling microphone.) Therefore I did a comparison between the two using the same audio recordings. For pocketsphinx I used pocketsphinx batch with the WSJ audio model and a small vocabulary language model and dictionary (created online with the CMU Cambridge language modelling toolkit.) For Sphinx4 I wrote a small Java program using the Sphinx4 library. The result was that Sphinx4 was much more accurate. All the gory details are at

answered Jan 8 '13 at 2:12

http://www.jaivox.com/pocketsphinx.h



tml.

vjaivox 41 2

interesting, thanks for sharing! – Mike6679 Jan 8 '13 at 14:53



To achieve good accuracy with a pocketshinx:



- Important! Check that your mic audio device, file supports and 16 kHz while general model is trained with such acoustic examples.
- You should create your own limited dictionary you cannot use cmusphinx-voxforge-de.dic while accuracy is dramatically dropped.
- You should create your own language model.

You can search for Jasper project o GitLab to see how it's implemented. Or you can use check the documentation