# Hidden Markov Toolkit (HTK) Installation



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# HTK (Hidden Markov Model Toolkit)

• Website: http://htk.eng.cam.ac.uk/

| 檔案 (P) 編輯 (E) 檢視 (Y) 我的最愛 (A) 工具 (T) 説明 (H)<br>(C) 上一頁 ▼ (C) ▼ (C)   |   |
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| htk Home Register Mailing Lists Documentation  |   |
| Home What is HTK?  | and the second se |
| Getting HTK<br>Register<br>Change Password<br>Download The Hidden Markov Model Toolkit (HTK) is a portable toolkit for building and manipulating hidden Markov models<br>is primarily used for speech recognition research although it has been used for numerous other applications include<br>research into speech synthesis, character recognition and DNA sequencing. HTK is in use at hundreds of sites<br>worldwide.   | HTK<br>Jing   |
| Documentation         HTKBook         FAQ         History of HTK         CUED LVR Systems         License  | lities<br>Js<br>elease  |
| Mailing Lists       HTK was originally developed at the Machine Intelligence Laboratory (formerly known as the Speech Vision and Robotics Group) of the Cambridge University Engineering Department (CUED) where it has been used to build CUED's large vocabulary speech recognition systems (see CUED HTK LVR). In 1993 Entropic Research Laboratory Ltd was fully transferred to Entropic in 1995 when the Entropic Cambridge Research Laboratory Ltd was established. HTK was sold by Entropic until 1999 when Micros bought Entropic. Microsoft has now licensed HTK back to CUED and is providing support so that CUED can redistribute HTK and provide development support via the HTK3 web site. See History of HTK for more details   | tory<br>soft  |
| Future Plans       Report a Bug         Beta version       ATK   | ource   |
| Links<br>HTK Extensions Join the HTK Team at CUED  | ~   |
| 意 完成   |   |



# How to get HTK?

- Registration
  - http://htk.eng.cam.ac.uk/register.shtml

## Registration

Please complete the form below and read the license agreement to register for a username and password to access the HTK source code. Please complete *all* fields. **You must enter a valid e-mail address as a password will be e-mailed to you.** 

| Requested User ID: | (min. 5 chars) |
|--------------------|----------------|
| Full Name:         |                |
| E-mail address:    |                |
| Organisation:      |                |
| Address:           |                |

This information will only be used for purposes directly related to the software and other materials on this web site. It will only be passed to third parties on an individual basis where it is necessary to enforce the license agreement or copyright restrictions.

# How to get HTK?

## Download HTK

### http://htk.eng.cam.ac.uk/download.shtml

### **Download HTK**

HTK can be downloaded either via HTTP or FTP. In either case you need to register and agree to the license to receive a username and password which allows you to download HTK.

HTK is available as a source distribution. To build HTK3 you must have a working ANSI C compiler and associated tools installed on your system. Ask your Systems Administrator if you are unsure whether you have these tools.

Documentation for the individual tools that make up HTK can be found in the HTKBook.

### Using HTTP

Registered users may download HTK and the HTK Samples using the following links:

### Linux/Unix downloads

- HTK source code (tar+gzip archive)
- HTK samples (tar+gzip archive)

#### Windows downloads

- HTK source code (zip archive for Windows users)
- HTK windows binary release (zip archive)
- HTK samples (zip archive for Windows users)





• Prerequisites: Ensure that your PATH contains

> Microsoft Visual Studio 2008 C:\Program Files\Microsoft Visual Studio 9.0\VC\bin

Microsoft Visual Studio 2005 C:\Program Files\Microsoft Visual Studio 8\VC\bin

Microsoft Visual Studio 2003 C:\Program Files\Microsoft Visual Studio .NET 2003\Vc7\bin

Microsoft Visual Studio C++ 6 C:\Program Files\Microsoft Visual Studio\VC98\bin

Compilation: 命令提示字元 \_ 🗆 X 1. Unpack the HTK sources C:\HTK-3.4.1\htk>dir /w 磁碟區 c 中的磁碟沒有標籤。 磁碟區序號: F442-A0BC (HTK-3.4.1.zip) using winzip C:\HTK-3.4.1\htk 的目錄 2. Open a DOS command [..] AUTHORS ChangeLog config.guess [.] window: Click Start, select config.sub configure configure.ac [env] FAQ [HLMLib] [HLMTools] [HTK] [HTKBook] [HTKLib] Run type cmd at the prompt [HTKLURec] [HTKTools] install-sh LICENSE Makefile.in README 11 個檔案 10 個目錄 288,419 位元組 4,376,477,696 位元組可用 and click OK 3. cd into the directory in which C:\HTK-3.4.1\htk\mkdir bin.win32 you unpacked the sources C:\HTK-3.4.1\htk>dir /w 磁碟區 c 中的磁碟沒有標籤。 磁碟區序號: F442-A0BC 4. cd into the htk directory. C:\HTK-3.4.1\htk 的目錄 Type: [...] AUTHORS [bin.win32] [.] ChangeLog cd htk-3.4.1 configure.ac config.guess config.sub configure [env] FAQ [HLMLib] [HTK] [HLMTools] [HTKBook] [HTKLib] [HTKLVRec] [HTKTools] install-sh LICENSE 5. Create a directory for the Makefile.in README 288,419 位元組 11 個檔案 4,376,477,696 位元組可用 11 個目錄 library and tools. Type: C:\HTK-3.4.1\htk> mkdir bin.win32



- Compilation:
  - 6. Run VCVARS32 (it should be in your path, see prerequisites above)





- Compilation:
  - 7. Build the HTK Library, which provides the common functionality used by the HTK Tools. Enter the following commands:

cd HTKLib

## nmake /f htk\_htklib\_nt.mkf all





- Installation:
  - The HTK tools have now been built and are in the bin.win32 directory
  - You should add this directory to your PATH, so that you can run them easily from the command line in future



# **HTK Extensions**

- Download HDecode-3.4.zip
  - http://htk.eng.cam.ac.uk/extensions/index.shtml

| 🥖 HT                    | K Extension                                     | ıs - Wind       | ows Internet     | Explorer  |                          |
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| Ho                      | ne  |                 | нтк              | Extensions  |                          |
| Ge<br>Reg<br>Cha        | <b>tting HTK</b><br>jister<br>inge Passwo       | <b>C</b><br>ord | A num<br>further | ber of HTK users have implemented substantial extensions to the standard HTK version. On this page we<br>information. Many thanks to the authors of these extensions.   | e provide                |
| Dov                     | vnload  |                 | lf you p         | provide some free extension to HTK for download and would like to see it listed on this page, email us.   |                          |
| Do<br>HTI               | <b>cumenta</b><br>( Book                        | tion            | HDeo             | ode   |                          |
| Inst<br>FA<br>His<br>CU | allation & Te<br>2<br>tory of HTK<br>ED LVR Sys | esting<br>stems | To dov<br>have a | vnload and use HDecode you must be already registered as an HTK user, and then agree to the HDecod<br>Iready agreed to the licence, you can download HDecode from here. | le End U                 |



- Unpack the HDecode-3.4.zip to HTKLVRec and compile
  - it: Build the HTKLVRec

| cd HTKL | .VRec  |
|---------|--|
| nmake / | f htk_decode_nt.mkf all  |
| ad      | 🖸 命令提示字元 - 🗆 🗙   |
| cu      | C:\htk>cd HTKLURec   |
|         | C:\htk\HTKLUReconmake /f htk_hdecode_nt.mkf all  |
|         | Microsoft (R) Program Maintenance Utility Version 6.00.8168.0  |
|         | Copyright (C) Microsoft Corp 1988-1998. All rights reserved.   |
|         | cl /nologo /c /ML /W0 /GX /O2 /G5 /Ob2 /D "NDEBUG" /D "WIN32" /D "_CONSO   |
|         | LE" /D "NO_LAT_LM" /I "\HTKLib" /I "." HDecode.c   |
|         | HDecode.c  |
|         | config.n(30) : note G6311: unknown(0) : see previous definition of 'NDEBUG'  |
|         | c1 /nologo /c /ML /W0 /GX /O2 /G5 /Ob2 /D "NDEBUG" /D "WIN32" /D " CONSO   |
|         | LE" /D "NO_LAT_LM" /I "\HTKLib" /I "." HLUNet.c  |
|         | HLVNet.c   |
|         | config.h(30) : note C6311: unknown(0) : see previous definition of 'NDEBUG'  |
|         | rename HLUNet.obj HLUNet.orig.obj  |
|         | CI /nologo /c /mL /WU /GX /UZ /G5 /UB2 /D "NDEBUG" /D "WIN32" /D "_GUNSU<br>LEY /D "NO LAT LMY /L Y \HTVLibY /L Y Y HTUBAA A |
|         | HLURec.c   |
|         | config.h(30) : note C6311: unknown(0) : see previous definition of 'NDEBUG'  |
|         | rename HLVRec.obj HLVRec.orig.obj  |
|         | cl /nologo /c /ML /WØ /GX /O2 /G5 /Ob2 /D "NDEBUG" /D "WIN32" /D "_CONSO   |
|         | LE" /D "NO_LAT_LM" /I "\HTKLib" /I "." HLULM.c   |

## After installation

| 🗁 HIKL¥Rec                            |                       |             |              |  |  |  |  |  |
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| 網址① C:\htk\HTKLVRec                   |                       |             |              |  |  |  |  |  |
|                                       | 名稱 🔺                  | 大小          | 類型           |  |  |  |  |  |
| 檔案及資料夾工作 🔗                            | ChangeLog             | 14 KB       | 檔案           |  |  |  |  |  |
| →● 2井 → 並后時認知能力                       | h config.h            | 3 KB        | C/C++ Header |  |  |  |  |  |
|                                       | C HDecode.c           | 41 KB       | C Source     |  |  |  |  |  |
| 😣 將這個資料火發佈到網站                         | 🖸 HDecode.mod.c       | 40 KB       | C Source     |  |  |  |  |  |
| 🔂 共用這個資料夾                             | HDecode.mod.exe       | 468 KB      | 應用程式         |  |  |  |  |  |
|                                       | 💽 HDecode.mod.obj     | 50 KB       | Object File  |  |  |  |  |  |
|                                       | HDecode.orig.exe      | 468 KB      | 應用程式         |  |  |  |  |  |
| 其他位置 《                                | 😢 HDecode.orig.obj    | 50 KB       | Object File  |  |  |  |  |  |
| 👄 btk                                 | 🗐 HDecode-license.txt | 4 KB        | 文字文件         |  |  |  |  |  |
|                                       | C HLVLM.c             | 45 KB       | C Source     |  |  |  |  |  |
|                                       | h HLVLM.h             | 7 KB        | C/C++ Header |  |  |  |  |  |
| 🛅 共用文件                                | 😢 HLVLM.mod.obj       | 26 KB       | Object File  |  |  |  |  |  |
| 🚽 😏 我的電腦                              | 😪 HLVLM.orig.obj      | 26 KB       | Object File  |  |  |  |  |  |
| 📢 網路上的芳鄰                              | C HLVModel.c          | 9 KB        | C Source     |  |  |  |  |  |
| 3                                     | h HLVModel.h          | 8 KB        | C/C++ Header |  |  |  |  |  |
|                                       | 🔛 HLVModel.mod.obj    | 6 KB        | Object File  |  |  |  |  |  |
| 詳細資料 🔗                                | 🔛 HLVModel.orig.obj   | 6 KB        | Object File  |  |  |  |  |  |
|                                       | C HLVNet.c            | 58 KB       | C Source     |  |  |  |  |  |
| HIKLYKEC<br>檔案咨料本                     | h HLVNet.h            | 11 KB       | C/C++ Header |  |  |  |  |  |
| 修改日期:2009年5月7日。上午                     | 😭 HL VNet.mod.obj     | 43 KB       | Object File  |  |  |  |  |  |
| 06:55                                 | 😪 HL VNet.orig.obj    | 43 KB       | Object File  |  |  |  |  |  |
|                                       | C HLVRec.c            | 29 KB       | C Source     |  |  |  |  |  |
|                                       | h HLVRec.h            | 15 KB       | C/C++ Header |  |  |  |  |  |
|                                       | 😵 HLVRec.mod.obj      | 59 KB       | Object File  |  |  |  |  |  |
|                                       | 😢 HLVRec.orig.obj     | 53 KB       | Object File  |  |  |  |  |  |
|                                       | C HLVRec-GC.c         | 10 KB       | C Source     |  |  |  |  |  |
|                                       | HLVRec-LM.c           | 11 KB       | C Source     |  |  |  |  |  |
|                                       | HLVRec-misc.c         | 16 KB       | C Source     |  |  |  |  |  |
|                                       | HLVRec-outP.c         | 10 KB       | C Source     |  |  |  |  |  |
|                                       | HLVRec-propagate.c    | 48 KB       | C Source     |  |  |  |  |  |
|                                       | HLVRec-traceback.c    | 24 KB       | C Source     |  |  |  |  |  |
|                                       | 🔤 htk_hdecode_nt.mkf  | 3 KB        | MKF 檔案       |  |  |  |  |  |
|                                       | Makefile.icc          | 2 KB        | ICC 設定檔      |  |  |  |  |  |
|                                       | 🔤 Makefile.in         | 3 KB        | IN 檔案        |  |  |  |  |  |
|                                       | I README              | 1 KB        | 檔案           |  |  |  |  |  |

