The 9ᵗʰ Tutorial on Open Source Robot Audition Software HARK

HRI-JP Audition for Robots with Kyoto University

October 2, 2013
LAAS-CNRS (Europe Room), Toulouse, France
URL: http://winnie.kuis.kyoto-u.ac.jp/HARK/

Open source robot audition software called HARK (HRI-JP Audition for Robots with Kyoto University) was released in 2008 as a result of more than ten year research activities including organized sessions on robot audition at IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2004–2013). It provides a number of modules for supporting many multi-channel sound cards, advanced signal processing such as sound source localization and separation, and automatic speech recognition of separated speech. A user can make a real-time robot audition system by connecting the prepared modules on HARKDesigner, which is a newly-developed multi-platform GUI programming environment based on Javascript and HTML5. HARK has been applied to many robots including HRP-2, Robovie, SIG to show its general applicability. On Oct. 2 2013, HARK 2.0.0-alpha will be released. Its main features are

- Supported devices & platforms Microsoft Kinect, PlayStation Eye, ROS (HARK-ROS), 64 bit Linux, Windows

- Released new GUI programming environment HARKDesigner, new noise-robust sound source localization, tools for generating transfer functions, packages for visualization and logging incorporating python and MATLAB®, HARK-python, and HARK-MATLAB

- Updated rich documentations

- Many bugfixes

■ Time Table

10:00-10:10 Introduction
10:10-10:40 Overview of HARK
10:40-11:10 Practice 0: System boot and Kinect setting
11:10-12:00 Practice 1: Sound localization system
12:00-14:00 Lunch
14:00-15:00 Practice 2: Sound source separation and speech recognition system
15:00-15:20 break
15:20-16:20 Practice 3: Dialog system based on HARK
16:20-17:00 Live demonstration

■ Requirements for Participants

Participants are requested to bring a **_laptop PC_**, and **_Microsoft Kinect_**, **_Sony PlayStation Eye_**, or **_Dev Audio Microcone_**, which are used in Practices 0-3. Laptop PC (Windows 7 or 8) should be equipped with DVD drive (or an external DVD drive), USB, Core2Duo or higher CPU, and > 1GB memory. The following softwares should be installed in advance : Python (version 2.7.x, http://www.python.org/download/), Kinect SDK (only for Kinect users. The version should be the latest. http://www.microsoft.com/en-us/kinectforwindows/develop/developer-downloads.aspx), nodejs (later than version 0.10.10, http://nodejs.org/download/), Google Chrome (later than version 27), and any text editor.

■ Registration (Free of charge)

Email to HARK13Toulouse-Reg_at_zeus.kuis.kyoto-u.ac.jp (replace _at_ with @)

Subject: 9th HARK Tutorial

I will participate in the 9ᵗʰ HARK tutorial.

*Name:

*Affiliation:

*E-mail address:

*PC (type, vender, specification):