

16-848: Reference list for Weds, Jan 24th

We spoke about a number of taxonomies. Here are the ones that are mentioned in the slides. All of these are interesting reads:

Notice how the goal is to develop an expert system to decide on grasp choice given needs of the grasp:

Cutkosky MR. On grasp choice, grasp models, and the design of hands for manufacturing tasks. *Robotics and Automation, IEEE Transactions on*. 1989 Jun;5(3):269-79.

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.455.2202&rep=rep1&type=pdf>

This one has the pictures showing contact (and the comment that maybe these are all the grasps we need ☺)

Kamakura N, Matsuo M, Ishii H, Mitsuboshi F, Miura Y. Patterns of static prehension in normal hands. *American Journal of Occupational Therapy*. 1980 Jul 1;34(7):437-45.

<http://ajot.aota.org/Article.aspx?articleid=1889836>

This one is full of great anatomical information and beautiful drawings. The grasping part, "Modes of Prehension" begins on page 265 of the pdf.

Kapandji IA. *The physiology of the joints: upper limb*, Vol 1. Elsevier Health Sciences; 1987.

<http://graphics.cs.cmu.edu/nsp/course/16899-s16/papers/Kapandji.pdf>

Virtual fingers:

Iberall T. The nature of human prehension: Three dextrous hands in one. In *Robotics and Automation. Proceedings. 1987 IEEE International Conference on* 1987 Mar (Vol. 4, pp. 396-401). IEEE.

<http://graphics.cs.cmu.edu/nsp/course/16899-s16/papers/Iberall.pdf>

This paper attempting to develop a cumulative taxonomy contains many more references to other taxonomies.

Thomas Feix, Javier Romero, Heinz-Bodo Schmiedmayer, Aaron M. Dollar, and Danica Kragic, The GRASP Taxonomy of Human Grasp Types, *IEEE TRANSACTIONS ON HUMAN-MACHINE SYSTEMS* (to appear).

<http://grasp.xief.net/>

<http://ieeexplore.ieee.org/document/7243327/>

You can find the I-Limb manual here.

<http://www.touchbionics.com/sites/default/files/files/i-limb%20quantum%20user%20manual%20july%202015.pdf>

Also see this custom grip library:

<http://www.touchbionics.com/resources/qr-codes>