



Semantic Issues, Challenges, and Future Research Directions

Academic Panel

IEEE International Conference on Semantic Computing
Santa Clara, CA - August 6th, 2008

Dr. Gerald Friedland

Research Scientist

International Computer Science Institute

Berkeley, CA

fractor@icsi.berkeley.edu

Example

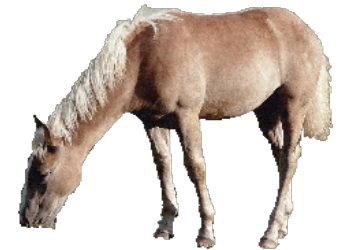
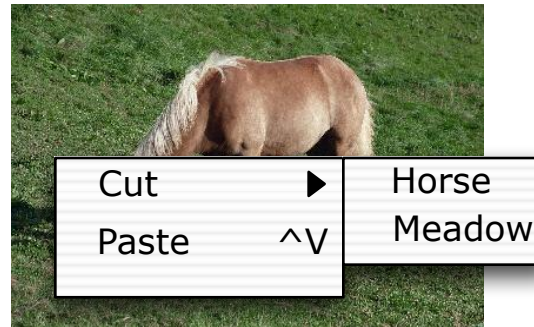


Image and Video Segmentation

Simple Interactive Object Extraction (SIOX)



Image



User Input



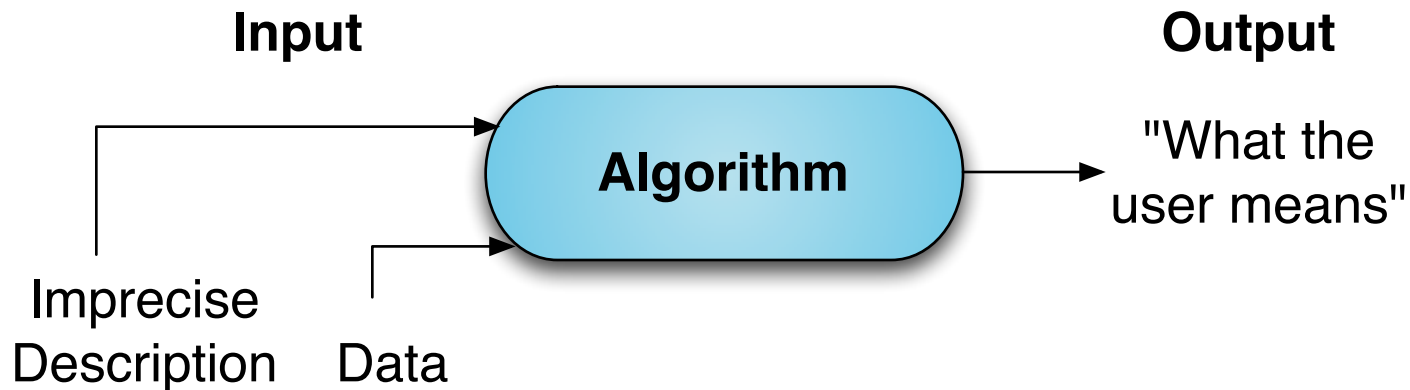
Output

G. Friedland, K. Jantz, T. Lenz, F. Wiesel, R. Rojas: Object Cut and Paste in Images and Videos, International Journal of Semantic Computing Vol 1, No 2, pp. 221-247, World Scientific, USA, June 2007.

Query by Sample

Semantic Computing

Computing facilitated by the
imprecise description of
contents and intentions



In other words...

“A little bit of Semantics goes a long way”

Prof. Sang-goo Lee
(Seoul National University, Korea)
at IEEE IWSCA 2008

Hypothesis

- Context can transform intractable problems into solvable problems.
- Context is sometimes able to transform an unstable research approach into a usable product.

Context

Context for Machine Learning:

- Inclusion of prior knowledge
- Combination of algorithms
- Extra hardware
- Multimodality: audio+video+...
+traditional sensors
- Human interaction
- ...

Conclusion

- Research should take into account more combined machine learning solutions...
- ... and submit to the IEEE International Conference on Semantic Computing. ;)