CS 260-1: "Pattern Discovery in Biosequences"
Reading list

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General References

Books

• Richard Durbin, A. Krogh, G. Mitchison, and S. Eddy, *Biological Sequence Analysis : Probabilistic Models of Proteins and Nucleic Acids,* Cambridge University Press, 1999.

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Papers

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1 Motifs discovery

• Emotif `http://motif.stanford.edu/emotif/`

• Verbumculus `http://www.cs.ucr.edu/~stelo/Verbumculus/`

• Pratt `http://www.ii.uib.no/~inge/Pratt.html`

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1.1 Motif discovery by Gibbs sampling

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1.2 Motif discovery by expectation maximization

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2 DNA segmentation

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3 Finding genes

• Glimmer (TIGR) `http://www.tigr.org/softlab/glimmer/glimmer.html`

• GenScan `http://genes.mit.edu/GENSCAN.html`

• HMMGene `http://www.cbs.dtu.dk/services/HMMgene/`

• Grail `http://compbio.ornl.gov/Grail-1.3/`

• GenMark.hmm `http://dixie.biology.gatech.edu/GeneMark/gmhmm2_prok.cgi`

• VEIL `http://www.tigr.org/~salzberg/veil.html`

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4 Finding regulatory elements

• PromoterInspector `http://genomatix.gsf.de/cgi-bin/promoterinspector/promoterinspector.pl`

• Promoter `http://www.cbs.dtu.dk/services/promoter/`

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5 Finding splicing sites

• Splice Predition using ANN `http://www.fruitfly.org/seq_tools/splice.html`

• ISIS: `http://isis.bit.uq.edu.au/a_splicers.html`

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6 Statistical analysis of gene expression data

• `http://linkage.rockefeller.edu/wli/microarray/` is an excellent starting point for resources on micro array literature, groups, companies, etc.

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6.1 Clustering

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7 Protein classification

• SCOP `http://scop.mrc-lmb.cam.ac.uk/scop/`

• CATH `http://www.biochem.ucl.ac.uk/bsm/cath_new/`

• Blocks `http://blocks.fhcrc.org/`

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8 Finding MARs

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9 Compression & sequence analysis

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10 Mining PubMed

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• Methods for Large-Scale Mining of Networks of Human Genes Tor-Kristian Jenssen, Lisa M.J. berg, Magnus L. Anderson, and Jan Komorowski, Proc. SIAM International Conference on Data Mining, 2001.