A partial list of published learning-to-rank algorithms is shown below with years of first publication of each method:

| **Year** | **Name** | **Type** | **Notes** |
| --- | --- | --- | --- |
| 1989 | OPRF [[16]](http://en.wikipedia.org/wiki/Learning_to_rank#cite_note-Fuhr1989-16) | pointwise | Polynomial regression (instead of machine learning, this work refers to pattern recognition, but the idea is the same) |
| 1992 | SLR [[17]](http://en.wikipedia.org/wiki/Learning_to_rank#cite_note-Cooperetal1992-17) | pointwise | Staged logistic regression |
| 2000 | [Ranking SVM](http://research.microsoft.com/apps/pubs/default.aspx?id=65610)(RankSVM) | pairwise | A more recent exposition is in,[[3]](http://en.wikipedia.org/wiki/Learning_to_rank#cite_note-Joachims2002-3) which describes an application to ranking using clickthrough logs. |
| 2002 | Pranking[[18]](http://en.wikipedia.org/wiki/Learning_to_rank#cite_note-18) | pointwise | Ordinal regression. |
| 2003 | [RankBoost](http://jmlr.csail.mit.edu/papers/volume4/freund03a/freund03a.pdf) | pairwise |  |
| 2005 | [RankNet](http://research.microsoft.com/en-us/um/people/cburges/papers/ICML_ranking.pdf) | pairwise |  |
| 2006 | [IR-SVM](http://research.microsoft.com/en-us/people/tyliu/cao-et-al-sigir2006.pdf) | pairwise | Ranking SVM with query-level normalization in the loss function. |
| 2006 | [LambdaRank](http://research.microsoft.com/en-us/um/people/cburges/papers/lambdarank.pdf) | pairwise | RankNet in which pairwise loss function is multiplied by the change in the IR metric caused by a swap. |
| 2007 | [AdaRank](http://research.microsoft.com/en-us/people/junxu/sigir2007-adarank.pdf) | listwise |  |
| 2007 | [FRank](http://research.microsoft.com/apps/pubs/default.aspx?id=70364) | pairwise | Based on RankNet, uses a different loss function - fidelity loss. |
| 2007 | [GBRank](http://www.cc.gatech.edu/~zha/papers/fp086-zheng.pdf) | pairwise |  |
| 2007 | [ListNet](http://research.microsoft.com/apps/pubs/default.aspx?id=70428) | listwise |  |
| 2007 | [McRank](http://research.microsoft.com/apps/pubs/default.aspx?id=68128) | pointwise |  |
| 2007 | [QBRank](http://www.stat.rutgers.edu/~tzhang/papers/nips07-ranking.pdf) | pairwise |  |
| 2007 | [RankCosine](http://research.microsoft.com/en-us/people/hangli/qin_ipm_2008.pdf) | listwise |  |
| 2007 | RankGP[[19]](http://en.wikipedia.org/wiki/Learning_to_rank" \l "cite_note-19) | listwise |  |
| 2007 | [RankRLS](http://staff.cs.utu.fi/~aatapa/publications/inpPaTsAiBoSa07a.pdf) | pairwise | Regularized least-squares based ranking. The work is extended in [[20]](http://en.wikipedia.org/wiki/Learning_to_rank#cite_note-pahikkala2009efficient-20) to learning to rank from general preference graphs. |
| 2007 | [SVMmap](http://www.cs.cornell.edu/People/tj/publications/yue_etal_07a.pdf) | listwise |  |
| 2008 | [LambdaMART](http://research.microsoft.com/pubs/69536/tr-2008-109.pdf) | listwise | Winning entry in the recent Yahoo Learning to Rank competition used an ensemble of LambdaMART models.[[21]](http://en.wikipedia.org/wiki/Learning_to_rank#cite_note-21) |
| 2008 | [ListMLE](http://research.microsoft.com/en-us/people/tyliu/icml-listmle.pdf) | listwise | Based on ListNet. |
| 2008 | [PermuRank](http://research.microsoft.com/en-us/people/junxu/sigir2008-directoptimize.pdf) | listwise |  |
| 2008 | [SoftRank](http://research.microsoft.com/apps/pubs/?id=63585) | listwise |  |
| 2008 | [Ranking Refinement](http://www.cs.pitt.edu/~valizadegan/Publications/ranking_refinement.pdf)[[22]](http://en.wikipedia.org/wiki/Learning_to_rank#cite_note-22) | pairwise | A semi-supervised approach to learning to rank that uses Boosting. |
| 2008 | [SSRankBoost](http://www-connex.lip6.fr/~amini/SSRankBoost/)[[23]](http://en.wikipedia.org/wiki/Learning_to_rank#cite_note-23) | pairwise | An extension of RankBoost to learn with partially labeled data (semi-supervised learning to rank) |
| 2008 | [SortNet](http://phd.dii.unisi.it/PosterDay/2009/Tiziano_Papini.pdf)[[24]](http://en.wikipedia.org/wiki/Learning_to_rank#cite_note-24) | pairwise | SortNet, an adaptive ranking algorithm which orders objects using a neural network as a comparator. |
| 2009 | [MPBoost](http://itcs.tsinghua.edu.cn/papers/2009/2009031.pdf) | pairwise | Magnitude-preserving variant of RankBoost. The idea is that the more unequal are labels of a pair of documents, the harder should the algorithm try to rank them. |
| 2009 | [BoltzRank](http://www.machinelearning.org/archive/icml2009/papers/498.pdf) | listwise | Unlike earlier methods, BoltzRank produces a ranking model that looks during query time not just at a single document, but also at pairs of documents. |
| 2009 | [BayesRank](http://www.iis.sinica.edu.tw/papers/whm/8820-F.pdf) | listwise | Based on ListNet. |
| 2010 | [NDCG Boost](http://www.cs.pitt.edu/~valizadegan/Publications/NDCG_Boost.pdf)[[25]](http://en.wikipedia.org/wiki/Learning_to_rank#cite_note-25) | listwise | A boosting approach to optimize NDCG. |
| 2010 | [GBlend](http://arxiv.org/abs/1001.4597) | pairwise | Extends GBRank to the learning-to-blend problem of jointly solving multiple learning-to-rank problems with some shared features. |
| 2010 | [IntervalRank](http://wume.cse.lehigh.edu/~ovd209/wsdm/proceedings/docs/p151.pdf) | pairwise & listwise |  |
| 2010 | [CRR](http://www.eecs.tufts.edu/~dsculley/papers/combined-ranking-and-regression.pdf) | pointwise & pairwise | Combined Regression and Ranking. Uses [stochastic gradient descent](http://en.wikipedia.org/wiki/Stochastic_gradient_descent) to optimize a linear combination of a pointwise quadratic loss and a pairwise hinge loss from Ranking SVM. |

Note: as most [supervised learning](http://en.wikipedia.org/wiki/Supervised_learning) algorithms can be applied to pointwise case, only those methods which are specifically designed with ranking in mind are shown above.