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- [96] M. Stillger, G. M. Lohman, V. Markl, and M. Kandil. Leo-db2's learning optimizer. In *VLDB*, 2001.
- [97] J. Sun, Y. Tao, D. Papadias, and G. Kollios. Spatio-temporal join selectivity. *Information Systems*, 2006.
- [98] A. Swami and K. B. Schiefer. On the estimation of join result sizes. In *EDBT*, 1994.
- [99] M. Tang and F. Li. Scalable histograms on large probabilistic data. In *KDD*, 2014.
- [100] Y. Tao, J. Sun, and D. Papadias. Selectivity estimation for predictive spatio-temporal queries. In *ICDE*, 2003.
- [101] N. Thaper, S. Guha, P. Indyk, and N. Koudas. Dynamic multidimensional histograms. In *SIGMOD*, 2002.
- [102] H. To, K. Chiang, and C. Shahabi. Entropy-based histograms for selectivity estimation. In *CIKM*, 2013.
- [103] I. Trummer. Exact cardinality query optimization with bounded execution cost. In *SIGMOD*, 2019.
- [104] K. Tzoumas, A. Deshpande, and C. S. Jensen. Efficiently adapting graphical models for selectivity estimation. *The VLDB Journal*, 22(1):3–27, Feb. 2013.
- [105] D. Van Aken, A. Pavlo, G. J. Gordon, and B. Zhang. Automatic database management system tuning through large-scale machine learning. In *SIGMOD*, 2017.
- [106] A. Van Gelder. Multiple join size estimation by virtual domains. In *PODS*, 1993.
- [107] C. Wang, S. Parthasarathy, and R. Jin. A decomposition-based probabilistic framework for estimating the selectivity of xml twig queries. In *EDBT*, 2006.
- [108] X. Wang, Y. Zhang, W. Zhang, X. Lin, and W. Wang. Selectivity estimation on streaming spatio-textual data using local correlations. *PVLDB*, 2014.
- [109] Y. Wu, J. M. Patel, and H. Jagadish. Using histograms to estimate answer sizes for xml queries. *Information Systems*, 2003.
- [110] J. Yang, X. Liao, X. Yuan, P. Llull, D. J. Brady, G. Sapiro, and L. Carin. Compressive sensing by learning a gaussian mixture model from measurements. *IEEE Transactions on Image Processing*, 2015.
- [111] Z. Yang, E. Liang, A. Kamsetty, C. Wu, Y. Duan, X. Chen, P. Abbeel, J. M. Hellerstein, S. Krishnan, and I. Stoica. Selectivity estimation with deep likelihood models. *CoRR*, abs/1905.04278, 2019.
- [112] Q. Zhang and X. Lin. On linear-spline based histograms. In *WAIM*, 2002.
- [113] Q. Zhang and X. Lin. Clustering moving objects for spatio-temporal selectivity estimation. In *Australasian database conference*, 2004.