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Nearest neighbor method using non-nested generalized exemplars in breast cancer diagnosis

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Every year there are several million people in the world who die from cancer while breast cancer is belonging to the most prevalent cancers diagnosed in women. In this paper, a nearest neighbor method which uses non-nested generalized exemplars is analyzed for diagnosis of breast cancer. The aim is to improve its accuracy so that the severity of a mammographic mass lesion is predicted more accurately from BI-RADS attributes and the age of the patient. The improvement consists in a change of distance computation between attributes with missing values and the use of several exemplars in diagnosis for a patient. Experiments on mammographic mass data make use of 10-fold cross-validation where sensitivity, specificity and overall accuracy are computed. Achieved results show increases in the sum of sensitivity and specificity as a combined measure for minimization of life-threatening situations and costs. Overall, the amount of unnecessary biopsies is decreased in the analyzed method.

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1. American Cancer Society Breast Cancer.: American Cancer Society, 2016.

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3. M. Brent, "Instance-based Learning: Nearest Neighbour with Generalization", *Hamilton New Zealand: University of Waikato*, 1995.

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2. S. W. Bernard, C. P. Wild, *World Cancer Report 2014.: International Agency for Research on Cancer World Health Organization*, 2014.
3. M. Brent, "Instance-based Learning: Nearest Neighbour with Generalization", *Hamilton New Zealand: University of Waikato*, 1995.
4. D. G. Dodge, J. L. Kegel, "Advances in breast cancer screening and diagnosis", *The Journal of Lancaster General Hospital*, vol. 1, no. 2, pp. 47-51, 2006.
5. M. Elter, R. Schulz-Wendtland, T. Wittenberg, "The prediction of breast cancer biopsy outcomes using two CAD approaches that both emphasize an intelligible decision process", *Medical Physics*, vol. 34, no. 11, pp. 4164-4172, 2007.

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-
6. J. Ferlay, E. Steliarova-Foucher, J. Lortet-Tieulent, S. Rosso, J. W. W. Coebergh, H. Comber, D. Forman, F. Bray, "Cancer incidence and mortality patterns in Europe: Estimates for 40 countries in 2012", *European Journal of Cancer*, vol. 49, no. 6, pp. 1374-1403, 2013.
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-
7. C. Lenz, D. Schmitt, "Understanding the perceptions and unmet needs of advanced breast cancer patients", *Journal fur Pharmakologie und Therapie*, vol. 23, no. 4, pp. 111-115, 2014.
-
8. R. Luengo-Fernandez, J. Leal, A. Gray, R. Sullivan, "Economic burden of cancer across the European Union: A population-based cost analysis", *The Lancet Oncology*, vol. 14, no. 12, pp. 1165-1174, 2013.
CrossRef Google Scholar
-
9. G. McLachlan, K.-A. Do, C. Ambrose, *Analyzing Microarray Gene Expression Data*, San Diego, USA:Wiley, 2004.
CrossRef Google Scholar
-
10. J. O'Shaughnessy, "Extending survival with chemotherapy in metastatic breast cancer", *Oncologist*, vol. 10, pp. 20-29, 2005.
CrossRef Google Scholar
-
11. A. A. Rao, J. Feneis, C. Lalonde, H. Ojeda-Fournier, "A pictorial review of changes in the BI-RADS fifth edition", *Breast Imaging*, vol. 36, no. 3, 2016.
CrossRef Google Scholar
-
12. A. L. Siu, *Screening for breast cancer: U.S. Preventive Services Task Force recommendation statement*, vol. 164, no. 4, pp. 279-297, 2016.
-
13. I. H. Witten, E. Frank, M. A. Hall, *Practical machine learning tools and techniques*, Burlington, MA, USA:Morgan Kaufman Publishers, 2011.
-
14. A. Znaor, C. Van, Den Hurk, M. Primic-Zakelj, D. Agius, D. Coza, A. Demetriou, N. Dimitrova, S. Eser, H. Karaklinc, S. Zivkovic, F. Bray, J. W. W. Coebergh, "Cancer incidence and mortality patterns in South Eastern Europe in the lat decade: Gaps persist compared with the rest of Europe", *European Journal of Cancer*, vol. 49, no. 7, pp. 1683-1691, 2013.
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