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An introduction to Venn-ABERS Predictors

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The Venn predictors [1] are probabilistic predictors with calibration guarantees under the minimal requirement of the i.i.d. assumption (or just exchangeability). In this context, calibration designates the property of predicted probabilities of corresponding to long-term frequencies. The Venn-ABERS predictors [2] are a specialisation of Venn Predictors that, in a binary classification setting, transform a score produced by a machine learning algorithm into a calibrated probability, providing in addition an indication of the sensitivity of the prediction to variations in the data. The presentation will provide just a basic overview of the theoretical underpinnings and will focus more on examples of application and a comparison with other calibration approaches.

[1] V. Vovk, A. Gammerman, and G. Shafer, *Algorithmic Learning in a Random World*. second ed., Dec. 2022.
[2] V. Vovk, I. Petej, and V. Fedorova, "Large-scale probabilistic predictors with and without guarantees of validity," in *Advances in Neural Information Processing Systems 28* (C. Cortes, N. D. Lawrence, D. D. Lee, M. Sugiyama, and R. Garnett, eds.), pp. 892–900, Curran Associates, Inc., 2015.