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Erratum to: Infrared pupillography in routine police traffic checks. Analysis of potential applications based on advanced statistical models

Erratum to:

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After publication of the article, the authors noticed that the neural network was incorrect. A new model was set up and extensively tested. The correct model uses two cut-off values instead of only one 1 cut-off. The first cut-off 1 was 0.12 and the second was 0.27. This enables the usage of a so-called “grey area”, i.e. if the network is confronted with data of a subject and is “in doubt” about its prediction, the model does not make a prediction for this single subject. Using this method, the new network performed as follows: specificity (94%, 95% CI 81–99%), sensitivity (83%, 95% CI 70–92%), negative predictive value (79%, 95% CI 64–90%), positive predictive value (96%, 95% CI 85–99%) and 88% (79–94%) of subjects—who received a prediction—were correctly predicted. 25 subjects (22%) did not receive a prediction. An illustration of the performance is given in **Fig. 1**. The results in the independent learning, verification and test samples are very similar in all three samples simultaneously. This is crucial to the networks performance, because this avoids overfitting and ensures that the network provides very good generalization.

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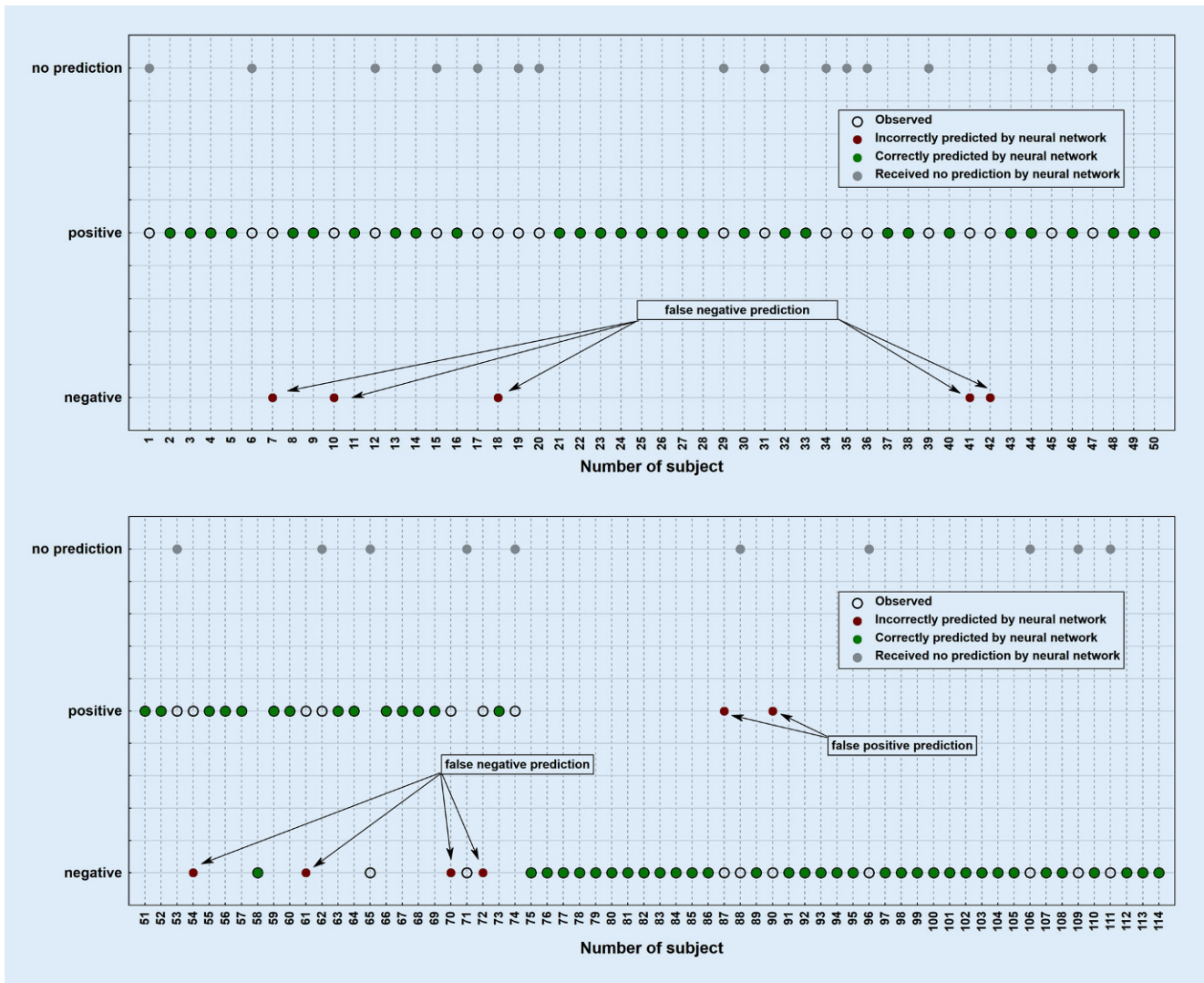


Fig. 1 ▲ Illustration of the performance of the neural network model: *Green outlined dots* illustrate correctly identified subjects and *red outlined dots* correspond to false identifications