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Predicting placebo and subpopulation effects with NetraAI's machine learning technology

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Pharmaceutical companies are using machine-learning (ML) algorithms to help them deal with difficult clinical trials. There are however two inherent problems that pharmaceutical companies face when attempting this type of remedy: 1) Complex patient population heterogeneity and 2) Relatively small sample sizes. The first issue provides a difficult setting for ML methods simply because many algorithms are going to try to do their best to learn what is asked of them, e.g., responders vs. non-responders as labeled by a clinician, which may be inaccurate. Further, the variables collected may actually have nothing to do with why a subset of patients respond, and so the machine ends up providing models based on data artifacts. This destroys vital predictability. The second issue is well known but we have discovered that by utilizing geometry to extract several perspectives of high dimensional data in a simple to read way, the machine can learn and extrapolate in an accurate way. The NetraAI system is thus capable of identifying those subjects who are predictable from the data that is provided and in addition, capable of quickly learning about the patient population so that predictions for placebo, safety, and efficacy can be trusted. We will provide examples derived from academic and pharmaceutical data sets.

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