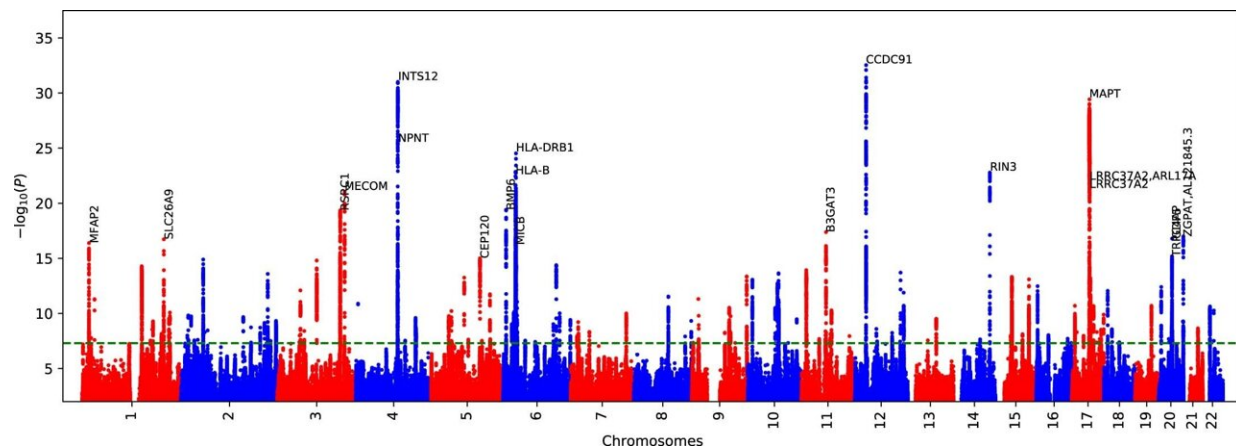


Using machine learning applications to predict patients' risk of developing COPD

April 18 2023, by Bob Yirka



ML-based COPD GWAS Manhattan plot via DeepNull. We performed ML-based COPD GWAS where we used the same set of covariates as the Fig. 4 with one additional covariate provided by DeepNull. DeepNull model predicts the ML-based COPD using age, sex, genotype-array, and FEV₁/FVC as inputs. The additional DeepNull-covariate is the DeepNull model prediction of ML-based COPD. DeepNull learns a function (that is, linear or non-linear) that predicts ML-based COPD via age, sex, genotype-array, and FEV₁/FVC as inputs. Thus, this analysis is similar to the ML-based COPD GWAS conditional on FEV₁/FVC where instead of assuming that FEV₁/FVC has linear relationship with ML-based COPD, DeepNull handles cases where age, sex, and FEV₁/FVC can have non-linear relationship with ML-based COPD. We obtained p-values from BOLT-LMM using a two-sided test. The green dashed line is the genome-wide significant level (P

Citation: Using machine learning applications to predict patients' risk of developing COPD

(2023, April 18) retrieved 16 July 2023 from <https://medicalxpress.com/news/2023-04-machine-applications-patients-copd.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.