

**Patterns, Volume 3**

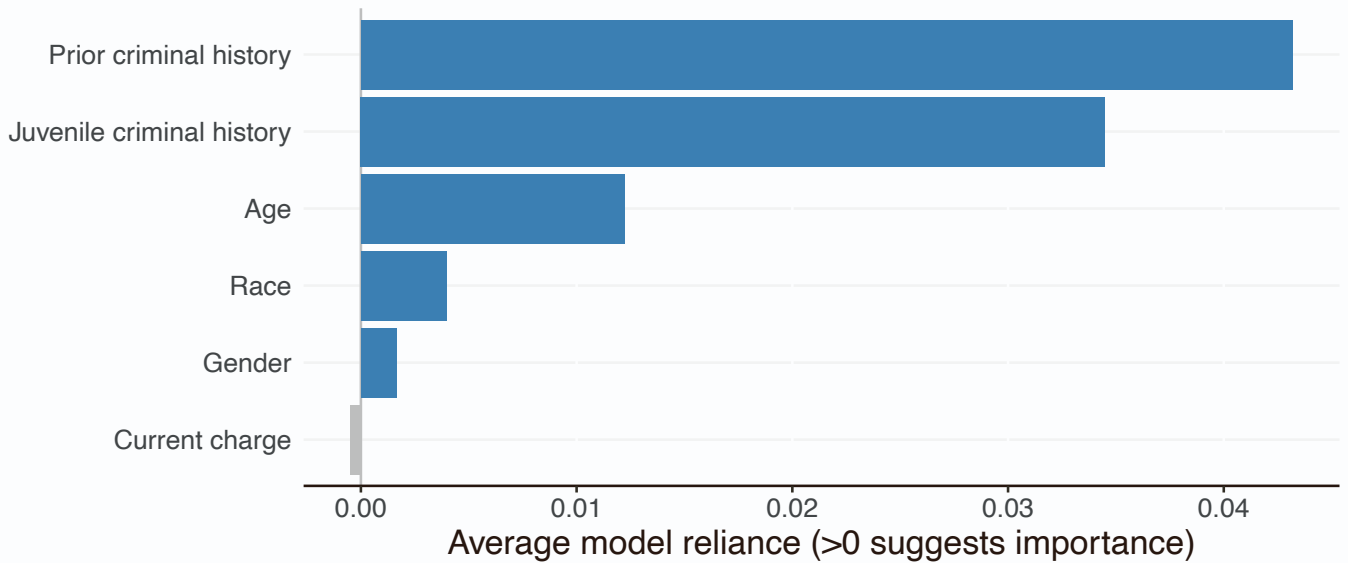
**Supplemental information**

**Shapley variable importance cloud  
for interpretable machine learning**

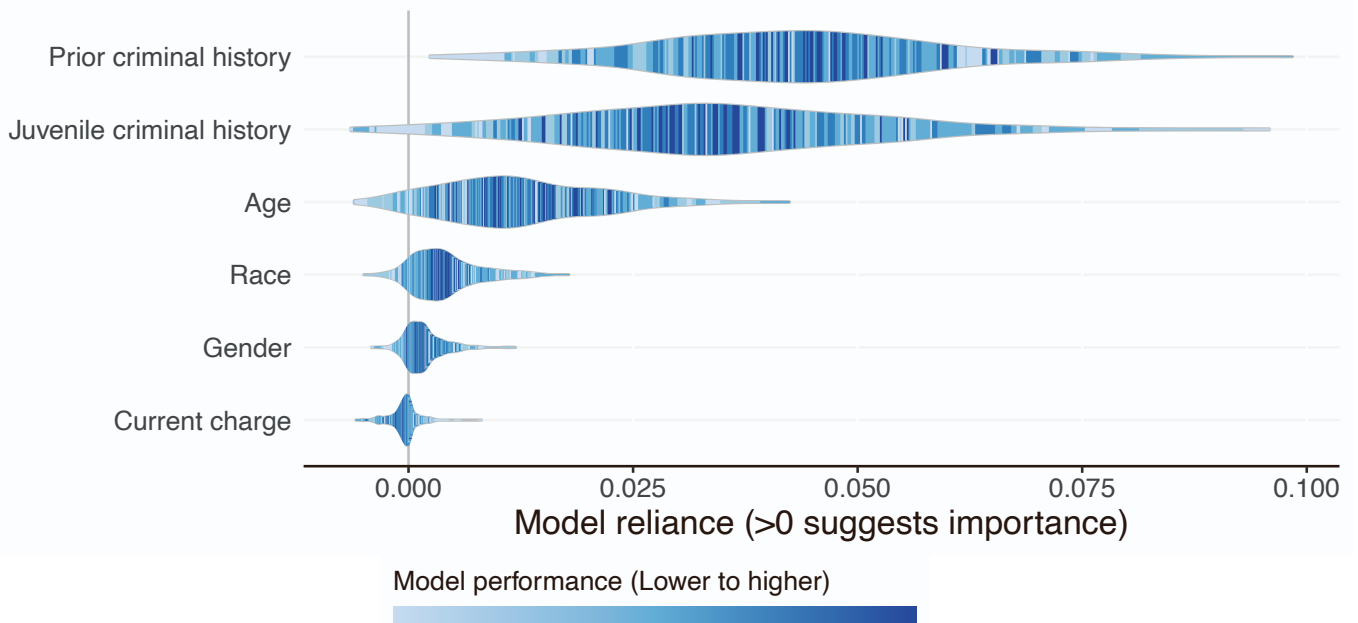
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Shu Wei Ting, Roger Vaughan, and Nan Liu**

**Figure S1.** Visual summary of recidivism prediction study results from the VIC analysis. VIC values were subtracted 1 such that zero value or lower indicate unimportance. (A) Average values from the 350 nearly optimal models. Variable ranking was similar to that based on average ShapleyVIC values. (B) Distribution of VIC values (subtracted 1) and the corresponding model performance.

(A) Variable ranking based on average VIC values (subtracted 1) from 350 nearly optimal models.

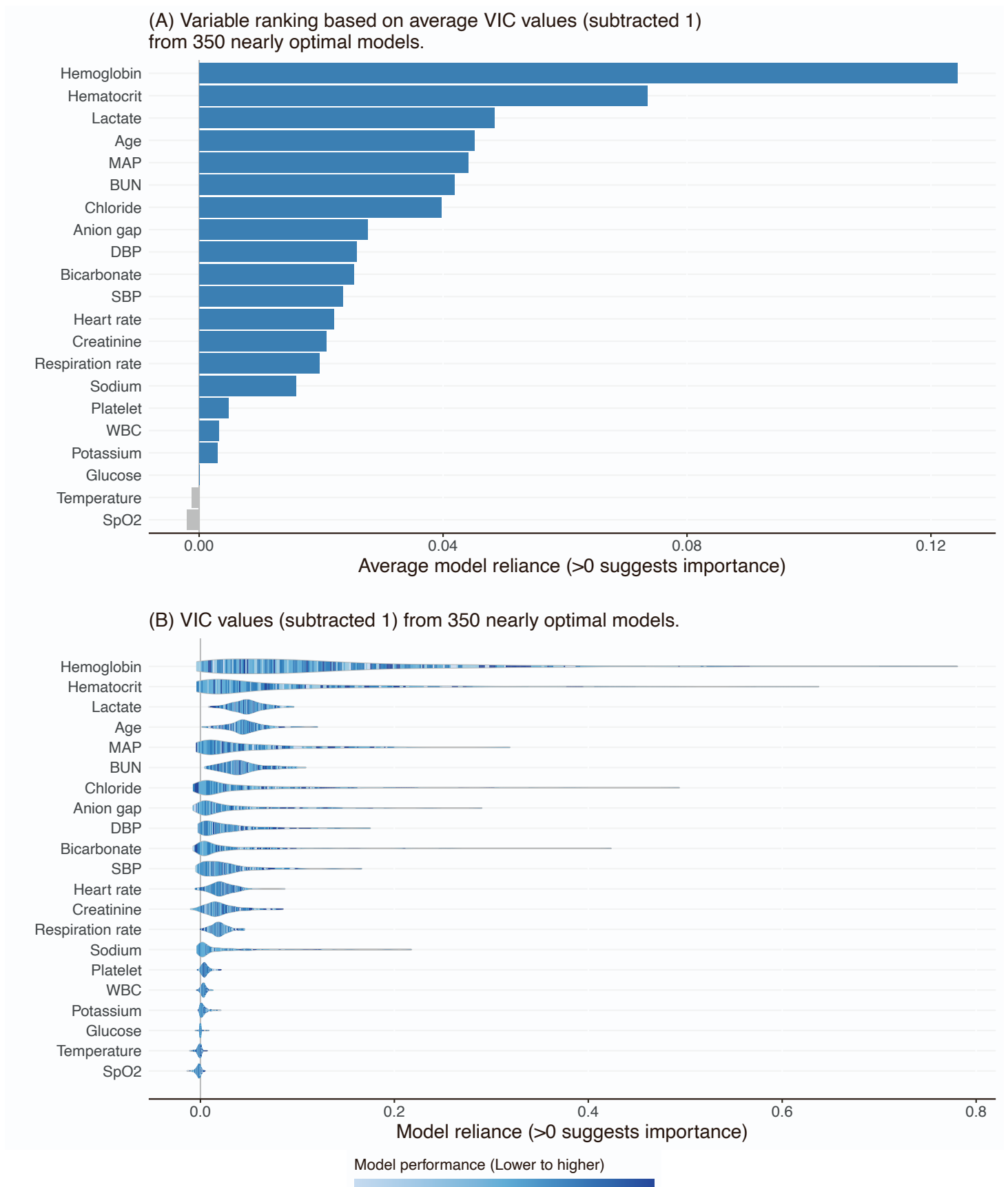


(B) VIC values (subtracted 1) from 350 nearly optimal models.





**Figure S3.** Visual summary of MIMIC study results from the VIC analysis. VIC values were subtracted 1 such that zero value or lower indicate unimportance. (A) Average values from the 350 nearly optimal models. Five of the top seven variables (i.e., except MAP and chloride) by average VIC values were also ranked top seven by average ShapleyVIC values. (B) Distribution of VIC values (subtracted 1) and the corresponding model performance.



BUN: blood urea nitrogen; DBP: diastolic blood pressure; MAP: mean arterial pressure; SBP: systolic blood pressure; SpO<sub>2</sub>: peripheral capillary oxygen saturation; WBC: white blood cell.