

# R-Output Presenattion

Chenghui Zheng

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*Sample size = 500 , averaged over 10 simulations.*

## (a) Linear Model with Independent Predictors

$$Y_1 \sim X_1 + X_2 + X_3 + X_4 + 1.5X_5 + 3X_6 + 5X_7 + 10X_8 + \epsilon$$

## (b) Linear Model with Correlated Predictors

$$Y_2 \sim X_1 + X_2 + X_3 + X_4 + 1.5X_5 + 3X_6 + 5X_7 + 10X_8 + \epsilon$$

Where  $X_1 \not\perp X_2$  and  $\text{cov}(X_1, X_2) = 0, 0.5, 0.75, 0.9$  respectively.

## (c) Linear Model with Correlated Predictors and Different SNR

$$Y_3 \sim X_1 + X_2 + X_3 + X_4 + 1.5X_5 + 3X_6 + 5X_7 + 10X_8 + \epsilon$$

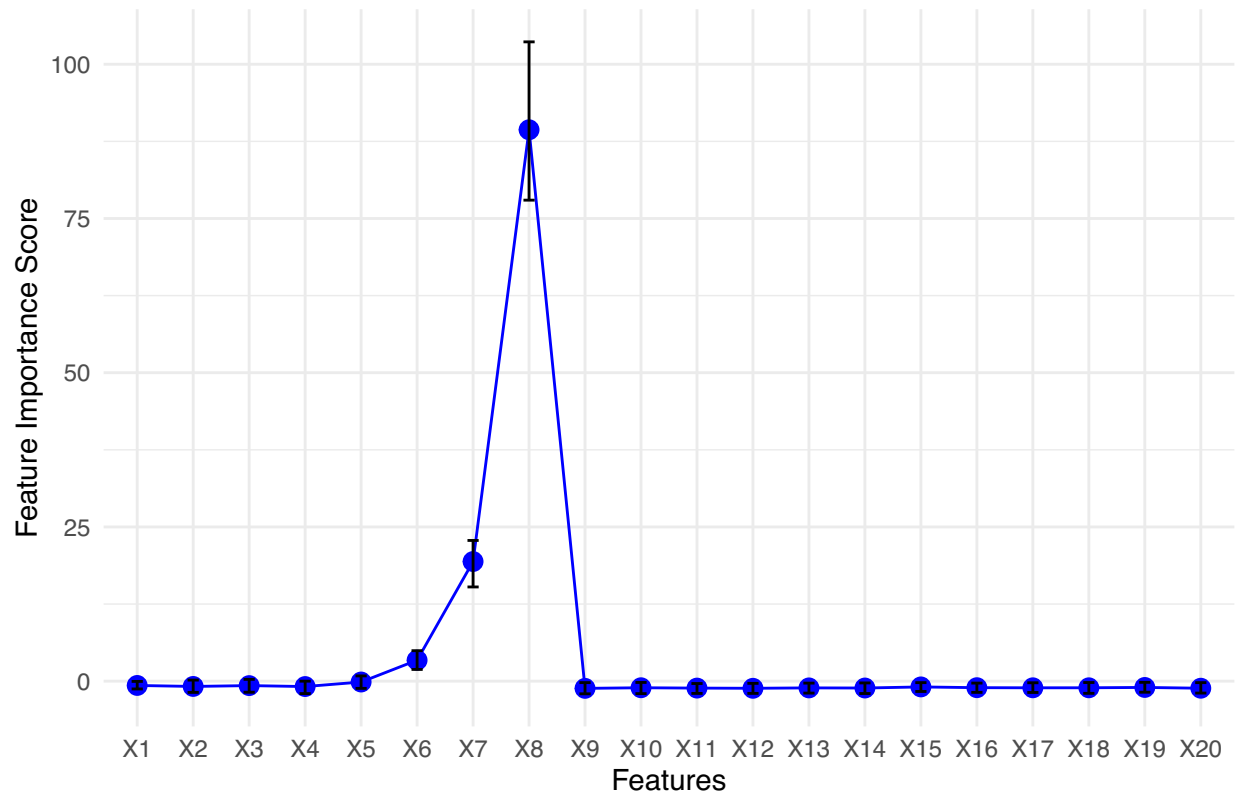
Where  $\text{cov}(X_i, X_j) = \rho^{|i-j|}$  and  $\epsilon \sim N(0, \sigma^2)$  with  $\sigma^2 = 0.1, 0.5, 0.75, 2.1$ .

## (d) Non-linear Model

$$Y_4 \sim 2X_1^2 + 2\cos(4X_2) + \sin(X_3) + \exp\left(\frac{X_4}{3}\right) + 3X_5X_6 + 5X_7 + \max(0, X_8)$$

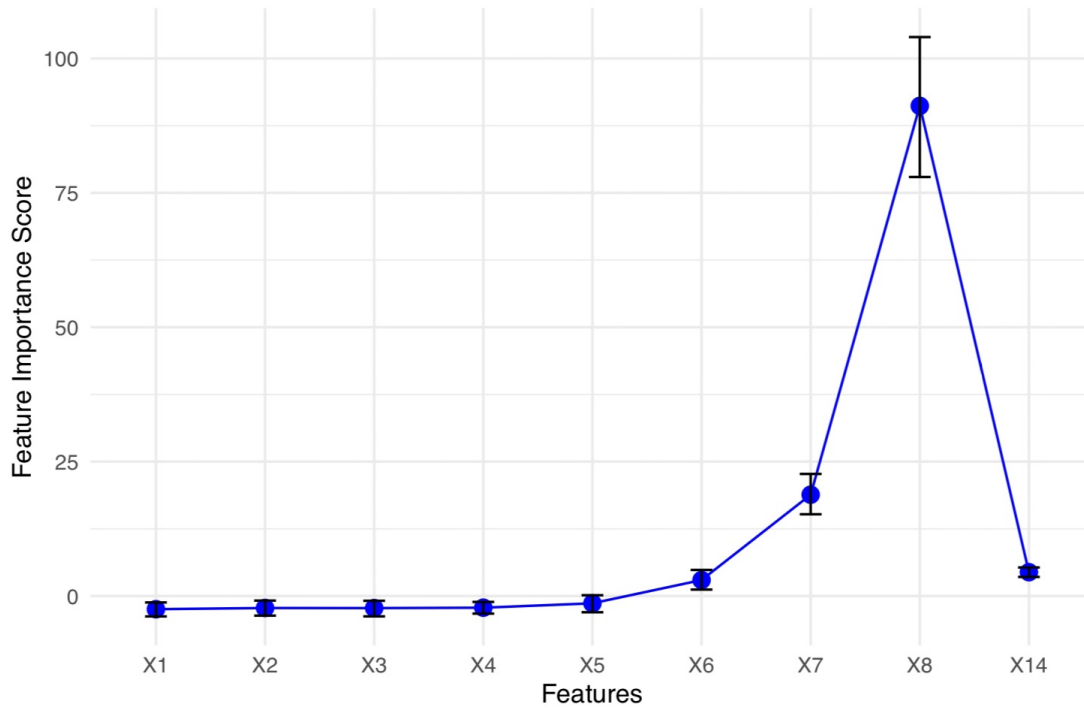
## LOCO only

Case a):

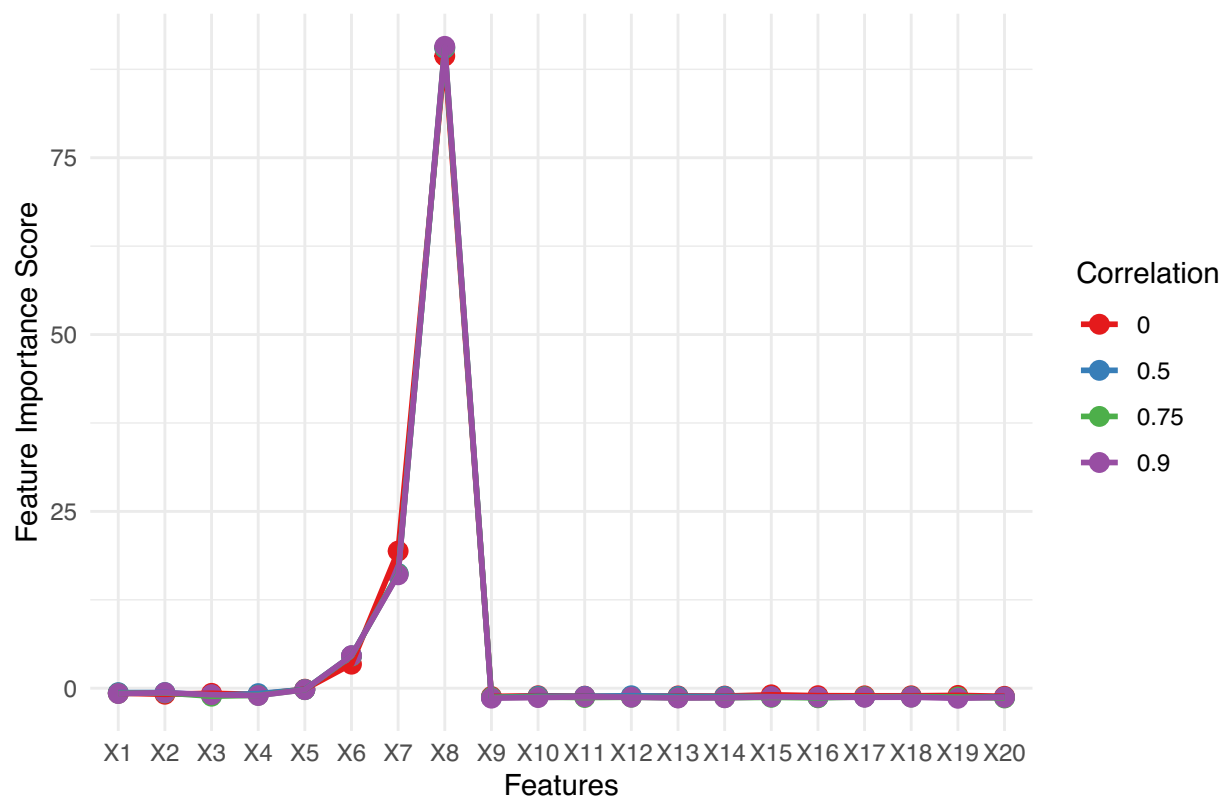


GCM filter first + LOCO

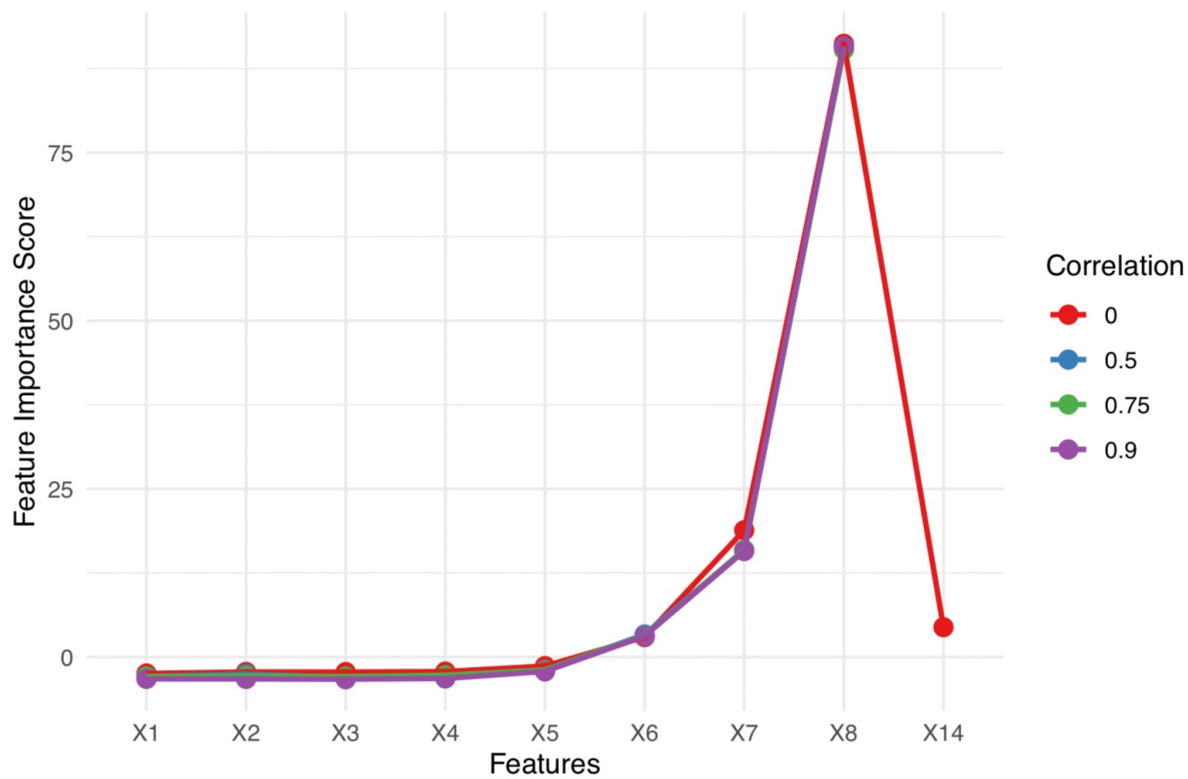
Case a):



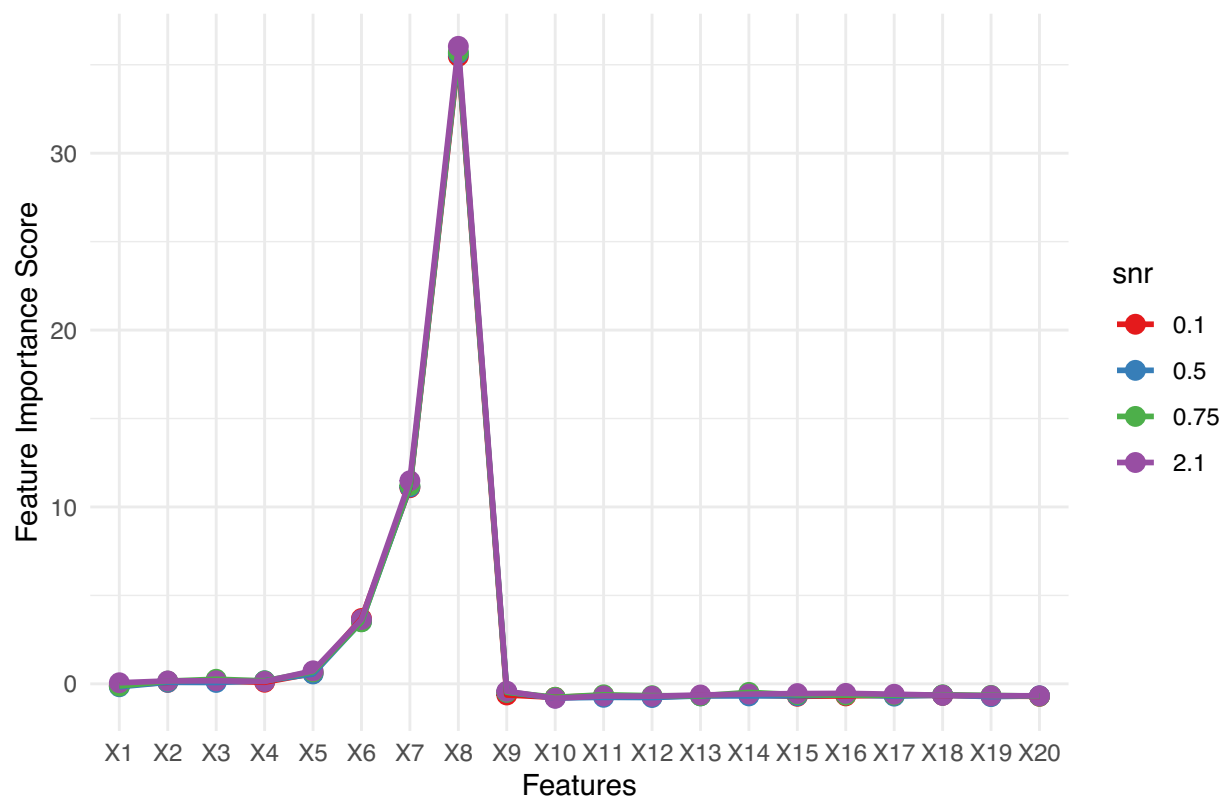
Case b): *LoCo*



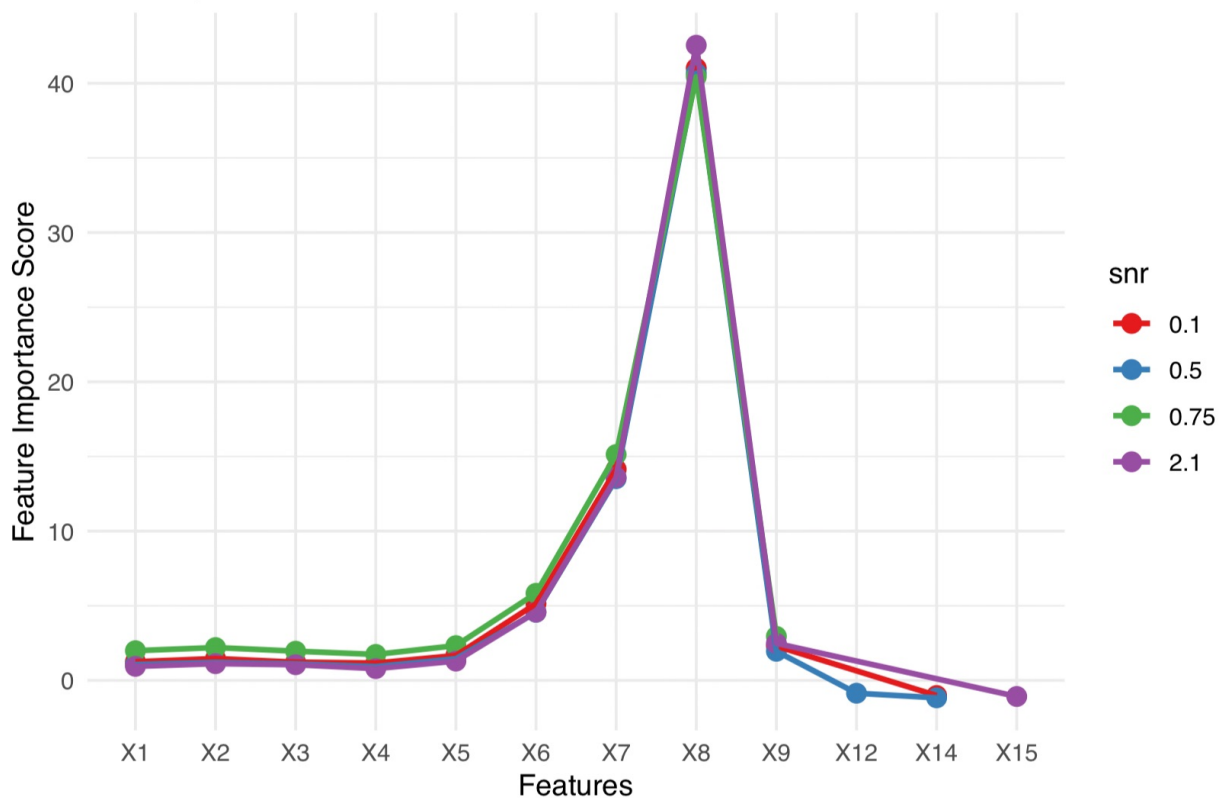
Case b): *GCM + LoCo*



Case c): *LoCo*

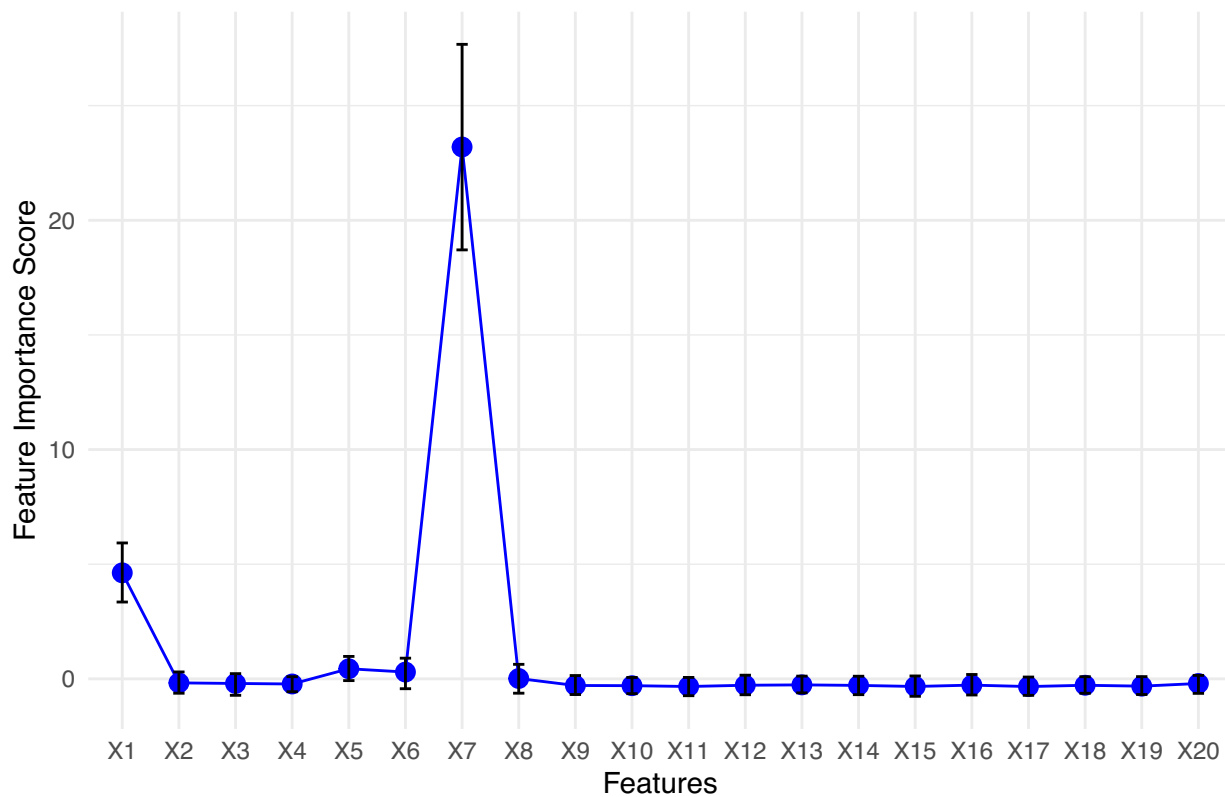


Case c): *GCM + LoCo*



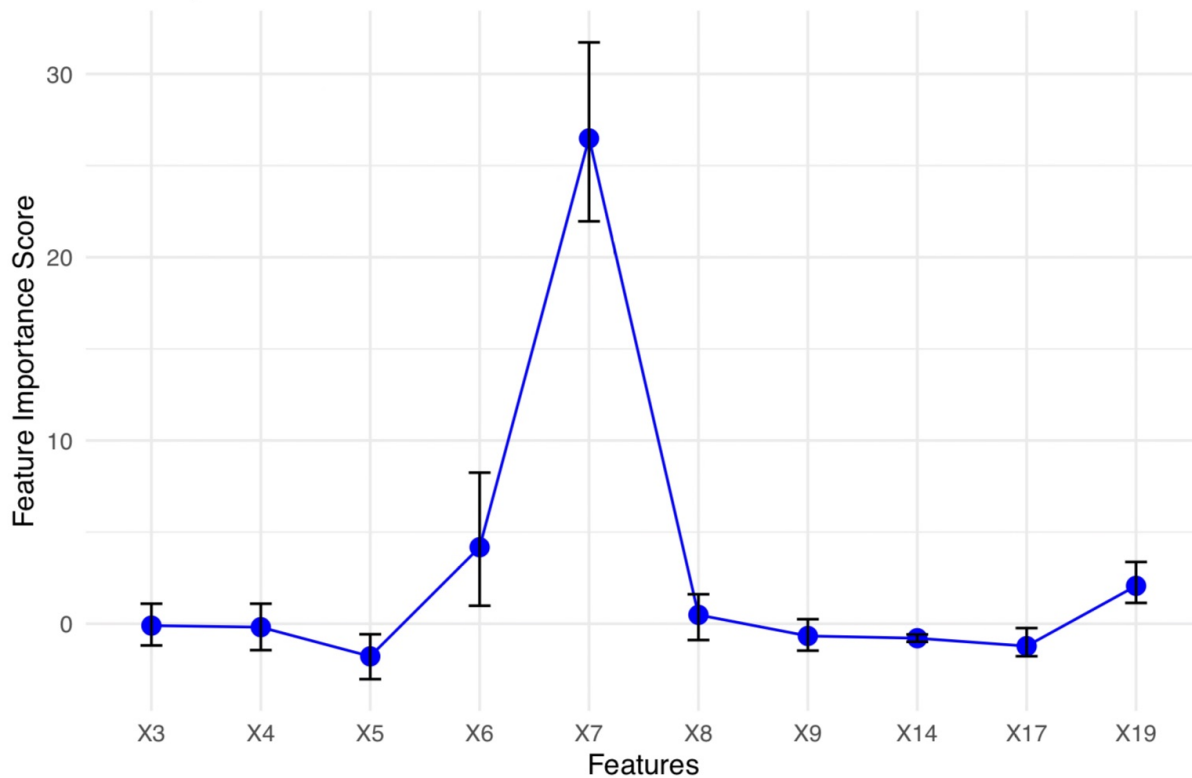
Case d): *l<sub>1</sub>*

62.6 min.



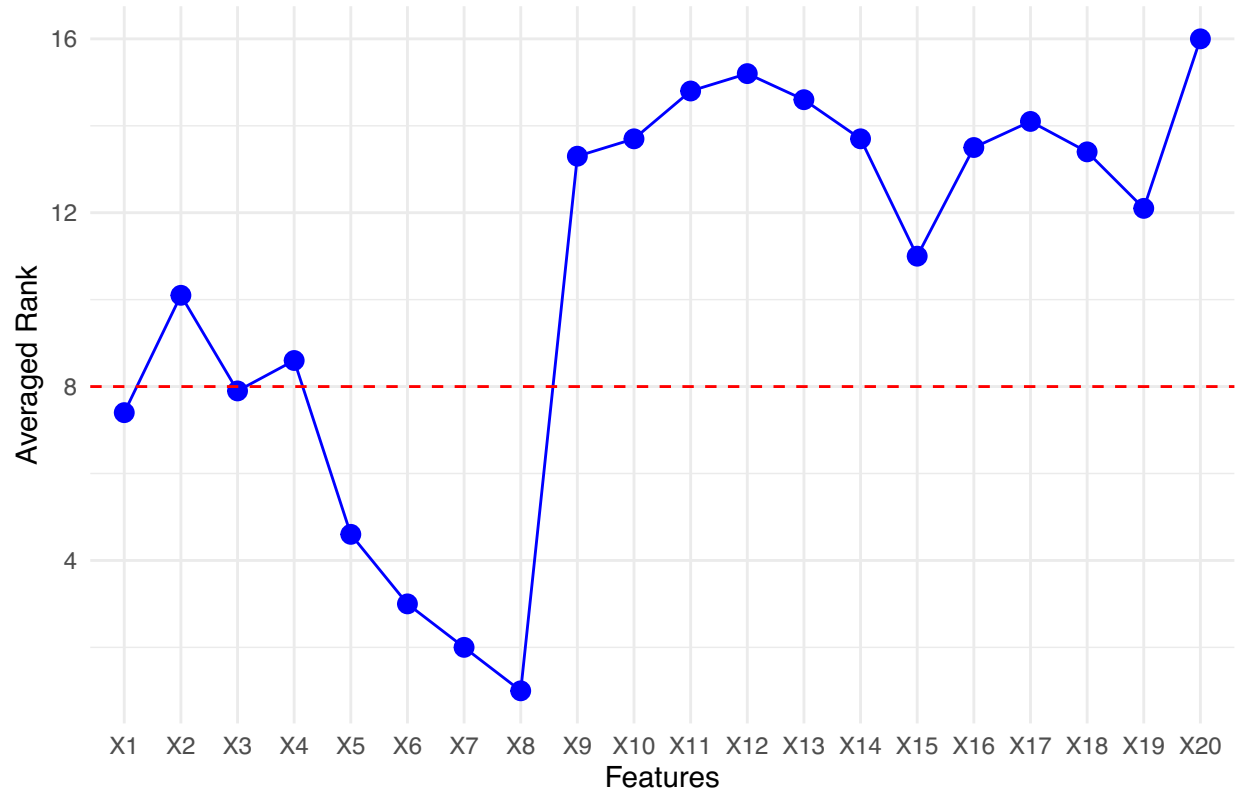
Case d): *GCM + l<sub>1</sub>*

26.5 min.



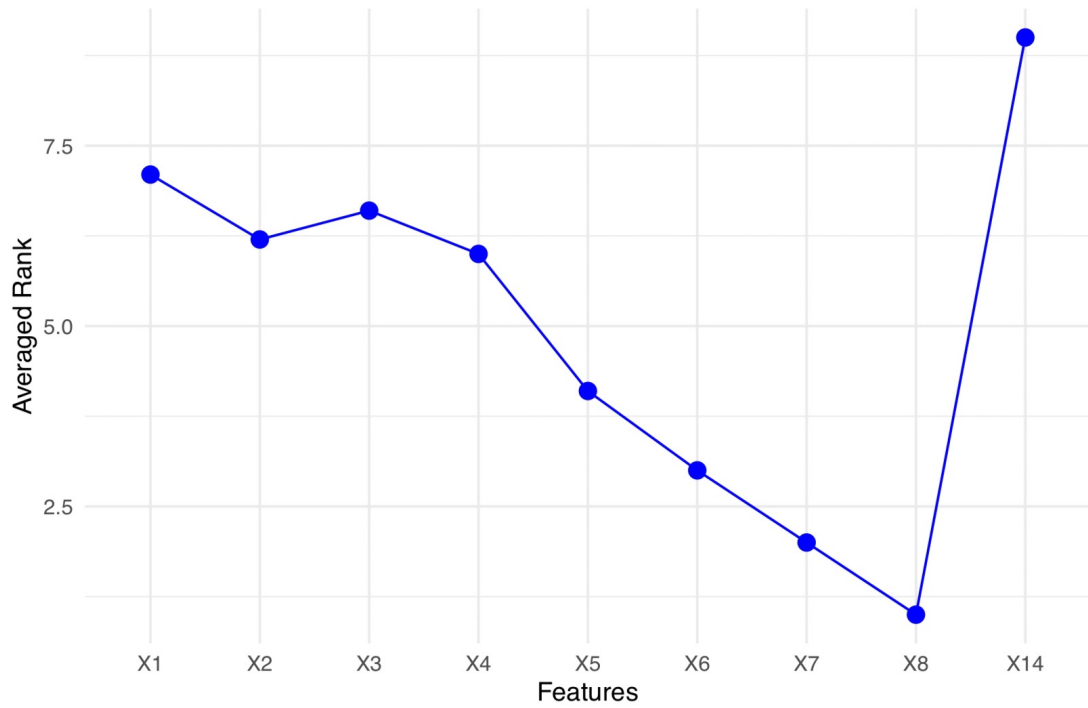
LOCO only

Case a):

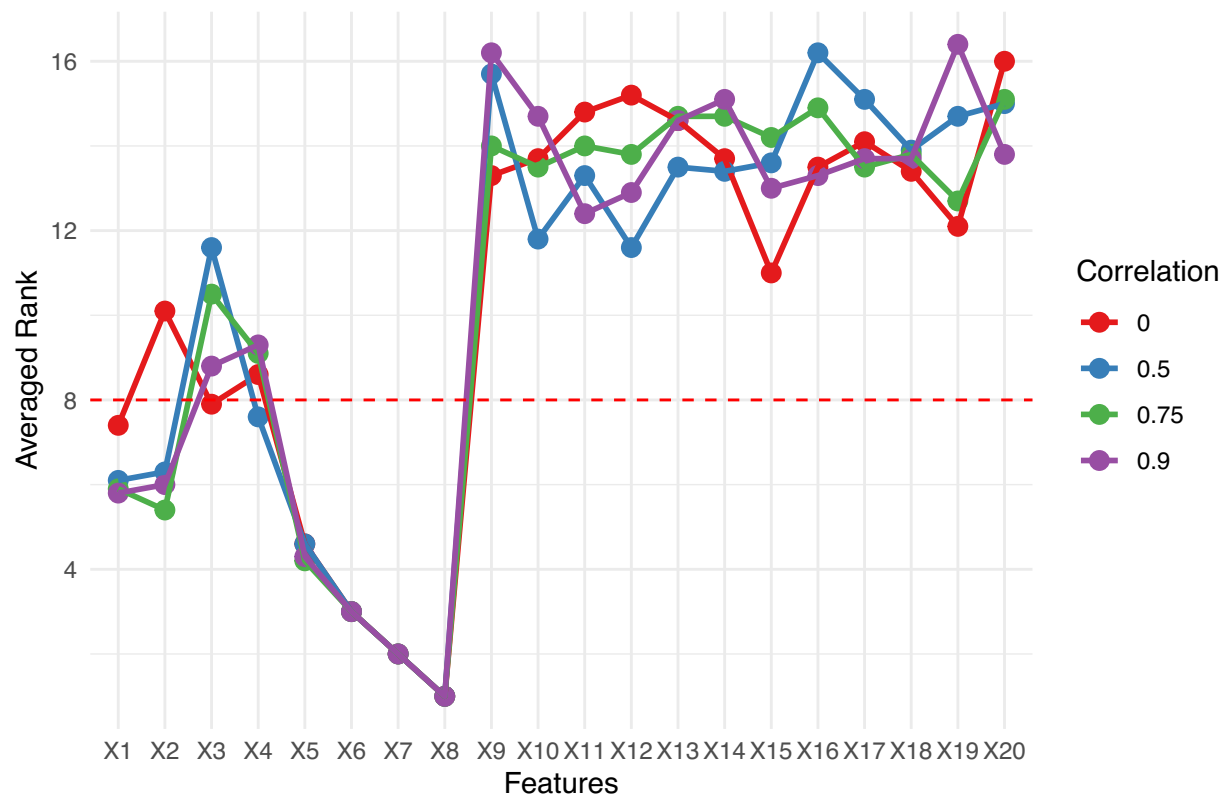


GCM filter first + LOCO

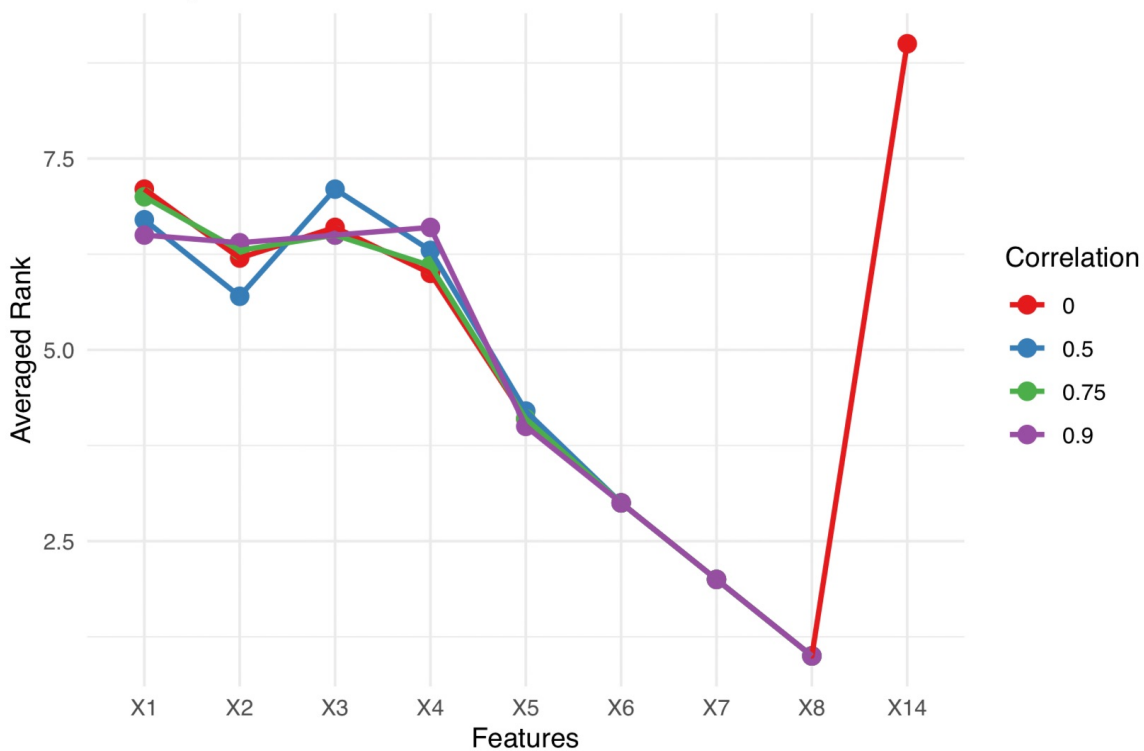
Case a):



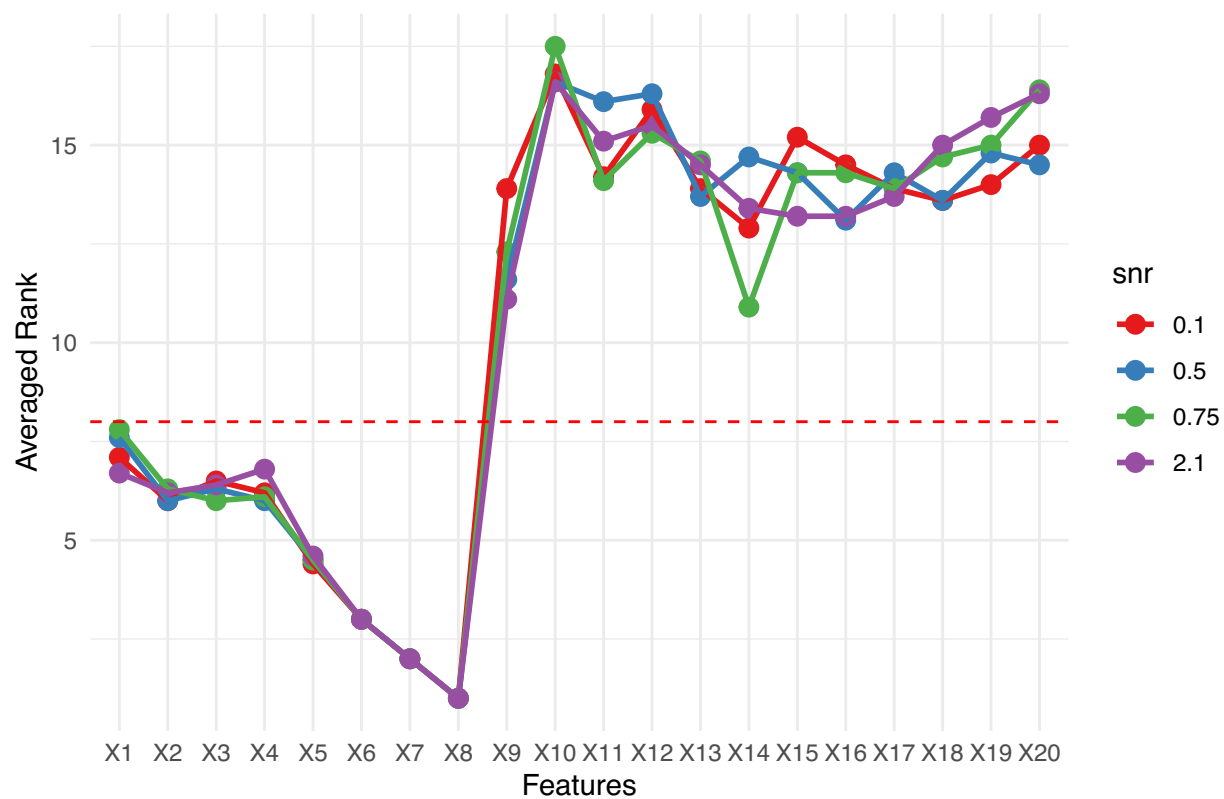
Case b): *LoCo*



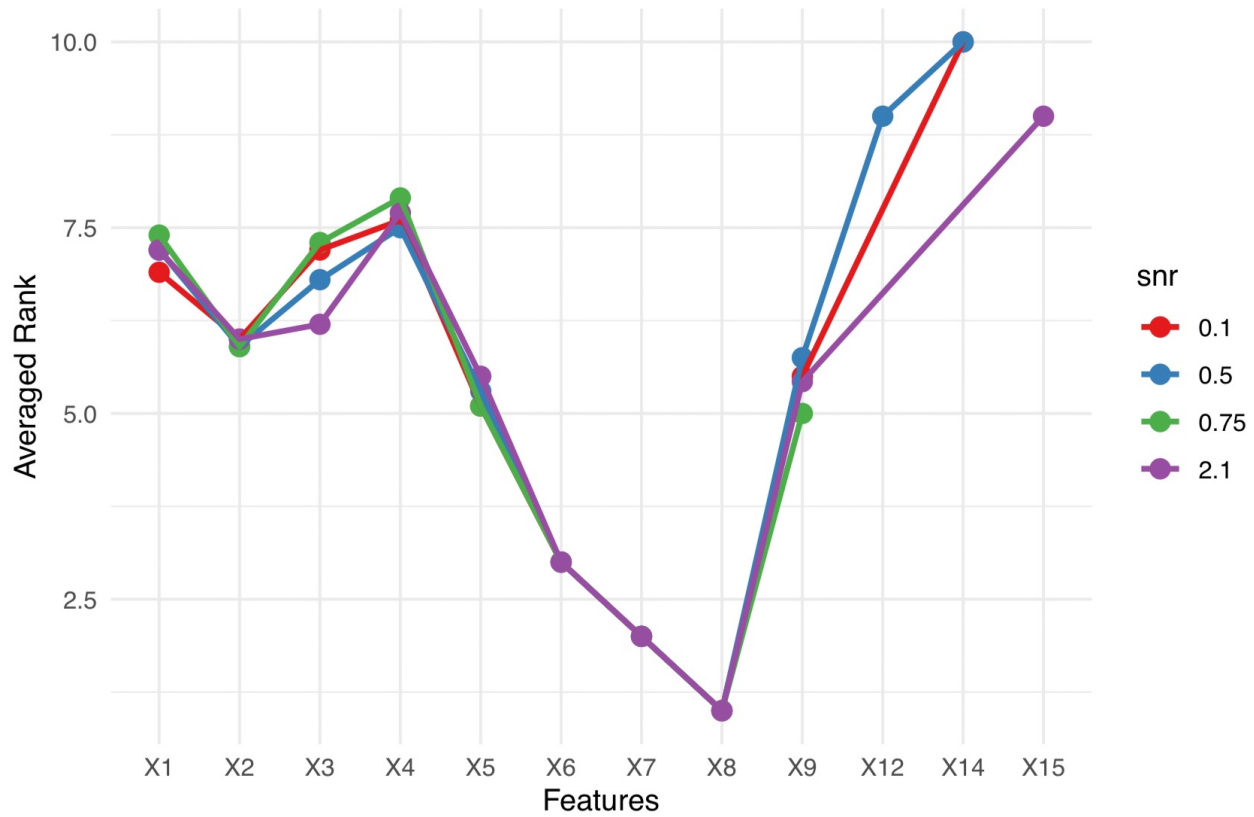
Case b): *GCM + LoCo*



Case c): *Loco*

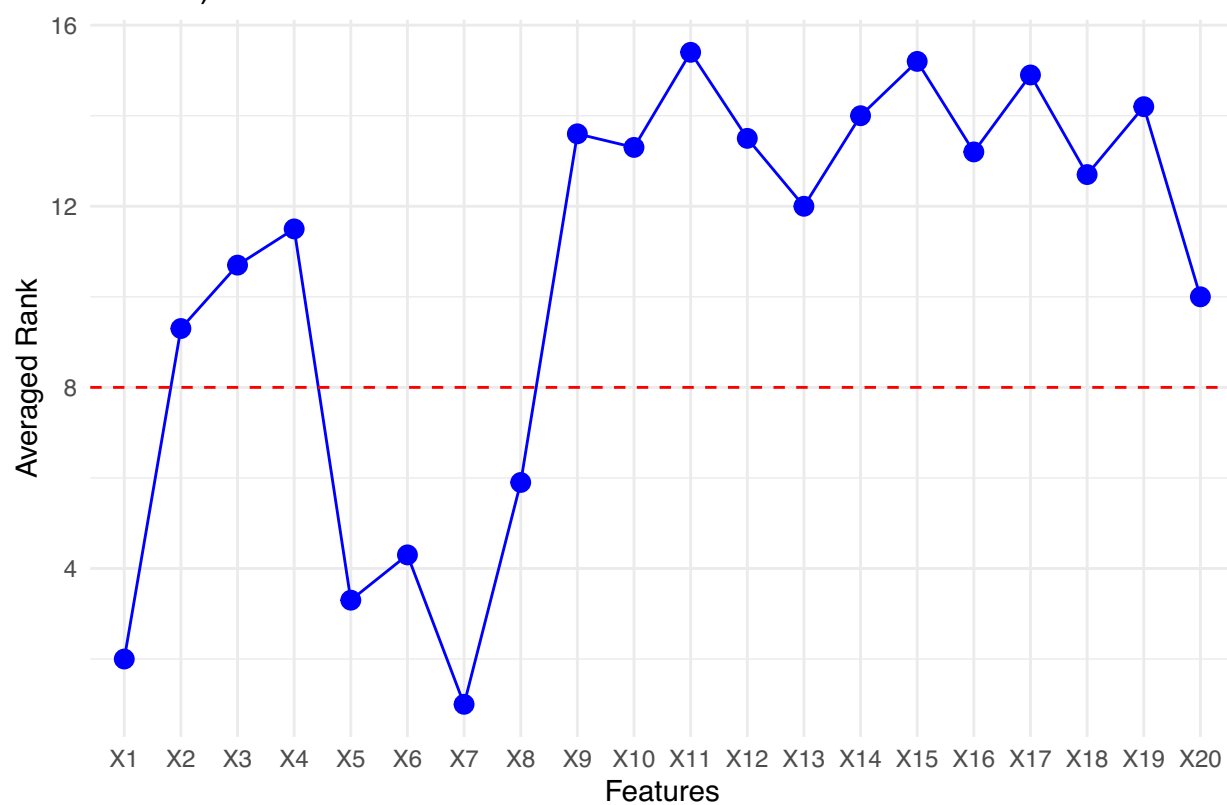


Case c): *GCM + Loco*





Case d):



Case d):

