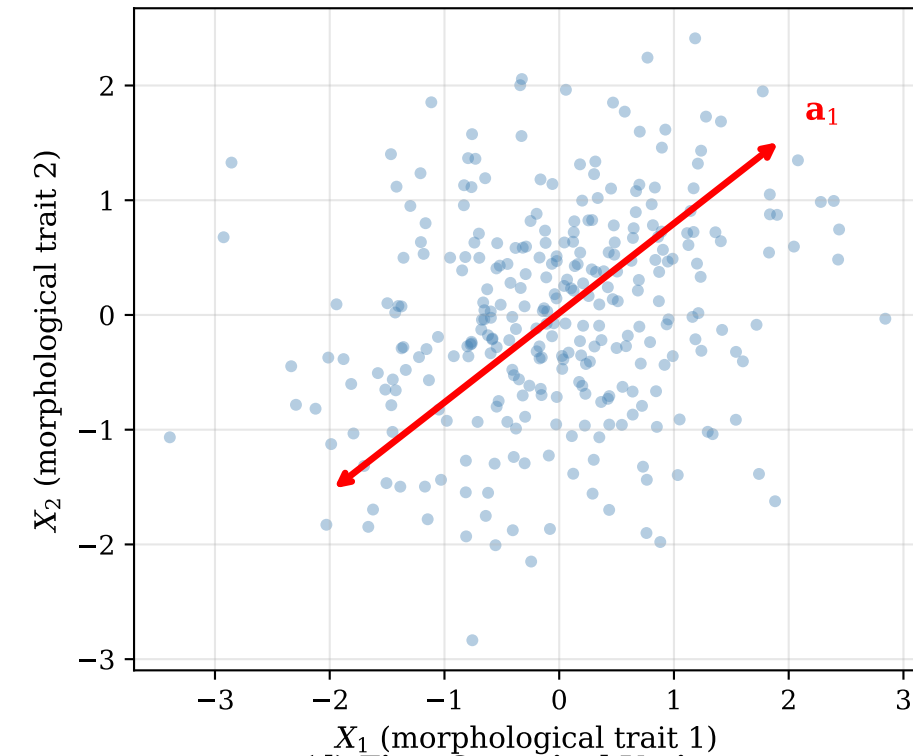


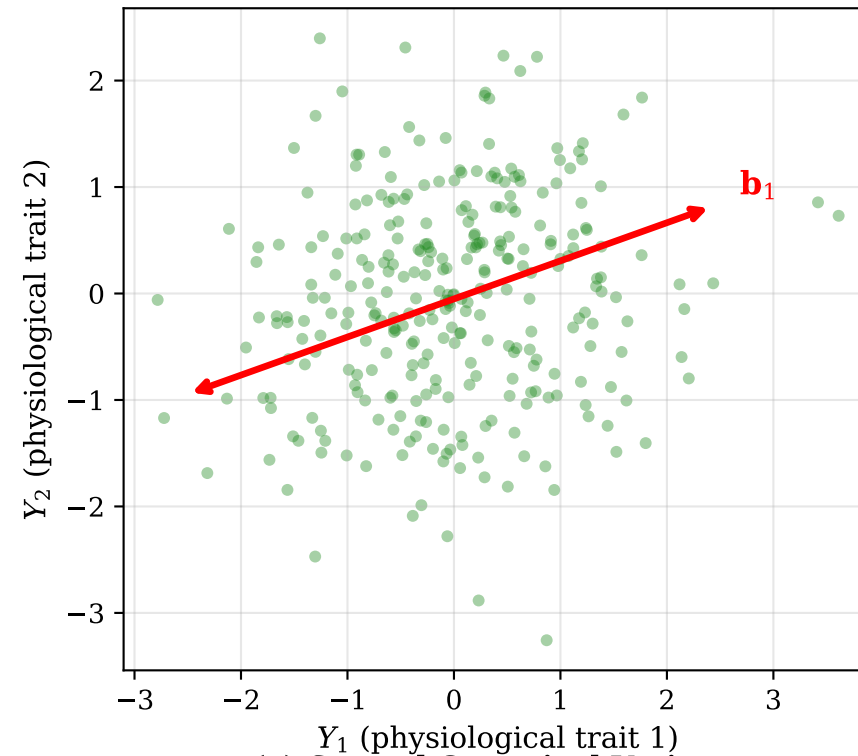
# Canonical Correlation Analysis: Finding Maximally Correlated Linear Combinations

CCA finds directions  $\mathbf{a}_i$  in X-space and  $\mathbf{b}_i$  in Y-space such that their projections are maximally correlated.

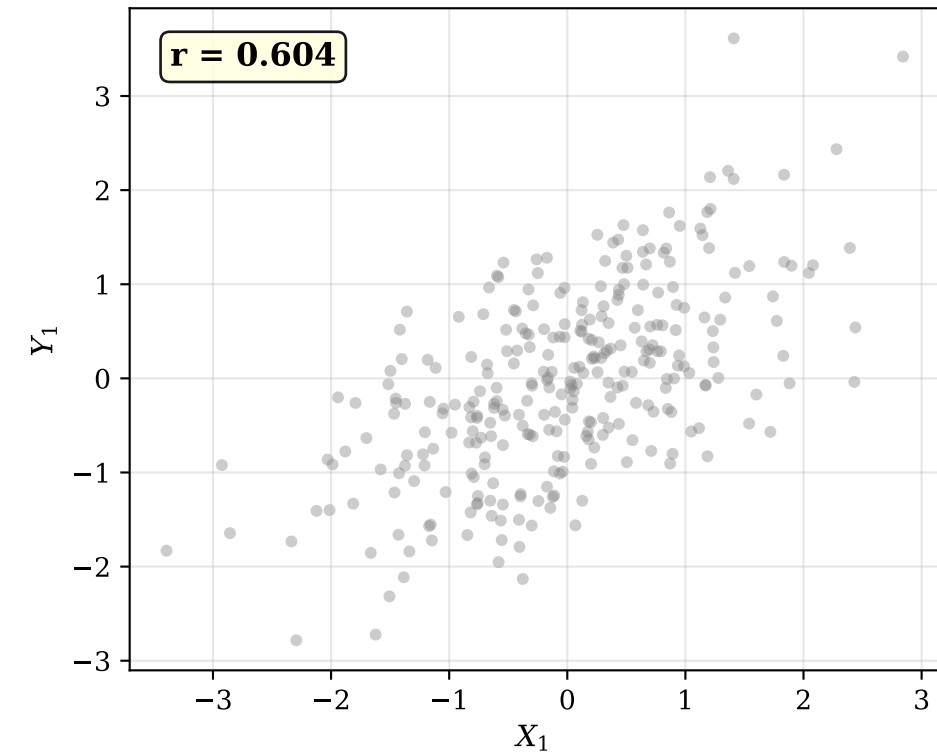
(a) X Variables  
with First Canonical Direction



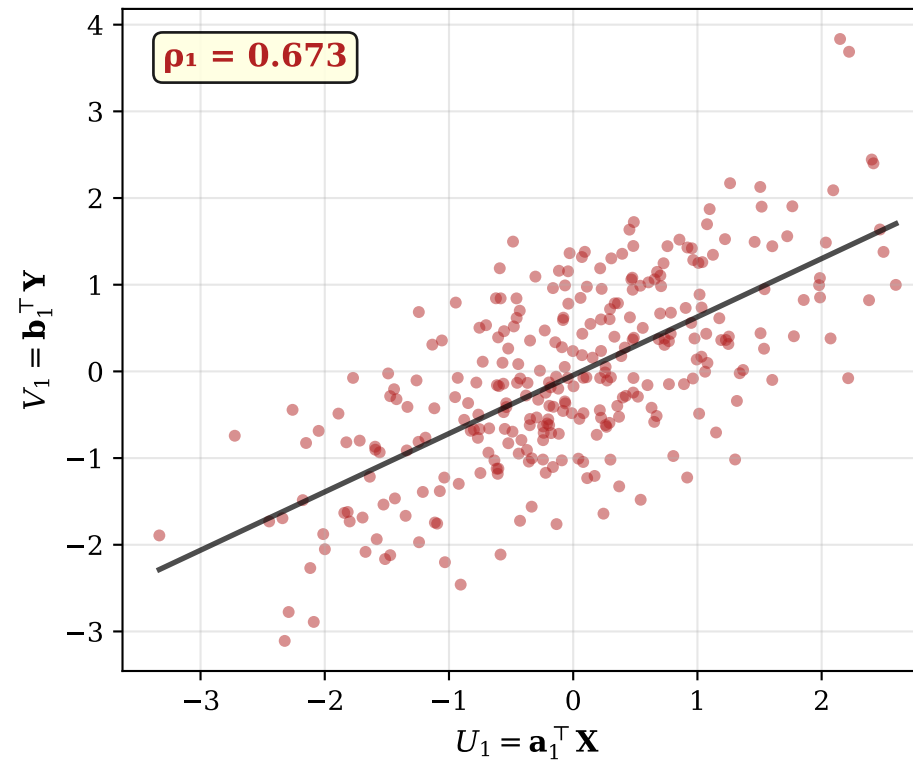
(b) Y Variables  
with First Canonical Direction



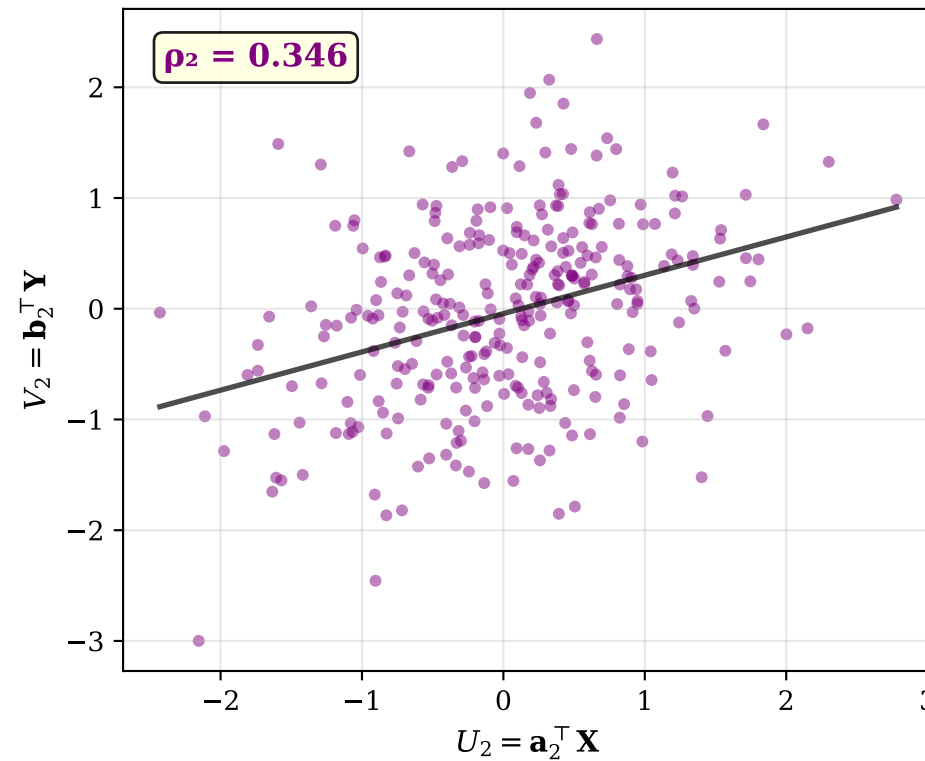
(c) Original Variables  
 $X_1$  vs  $Y_1$  (arbitrary pairing)



(d) First Canonical Variates  
Maximum Correlation Achieved



(e) Second Canonical Variates  
Residual Correlation



(f) CCA Schematic

