

15D Role-Specific Features: UMAP Projection by Cluster

Cluster separation based on:
• Student temporal patterns ($\eta^2=0.608$)
• 15D role-decomposed features

● Natural Flow (n=6,155, 88.4%)
● Methodical Worker (n=809, 11.6%)

UMAP Dimension 2

20

15

10

5

0

-5

UMAP Dimension 1

-5

15