Step 1:
Per-User
Alignment

τ_1

τ_2 τ_3 τ_k

A_1 5120 x 38
A_2 5120 x 38
A_3 5120 x 38
$\cdots$ A_k 5120 x 38

Keep 10 best users...

✓ ✗ ✓ ✓
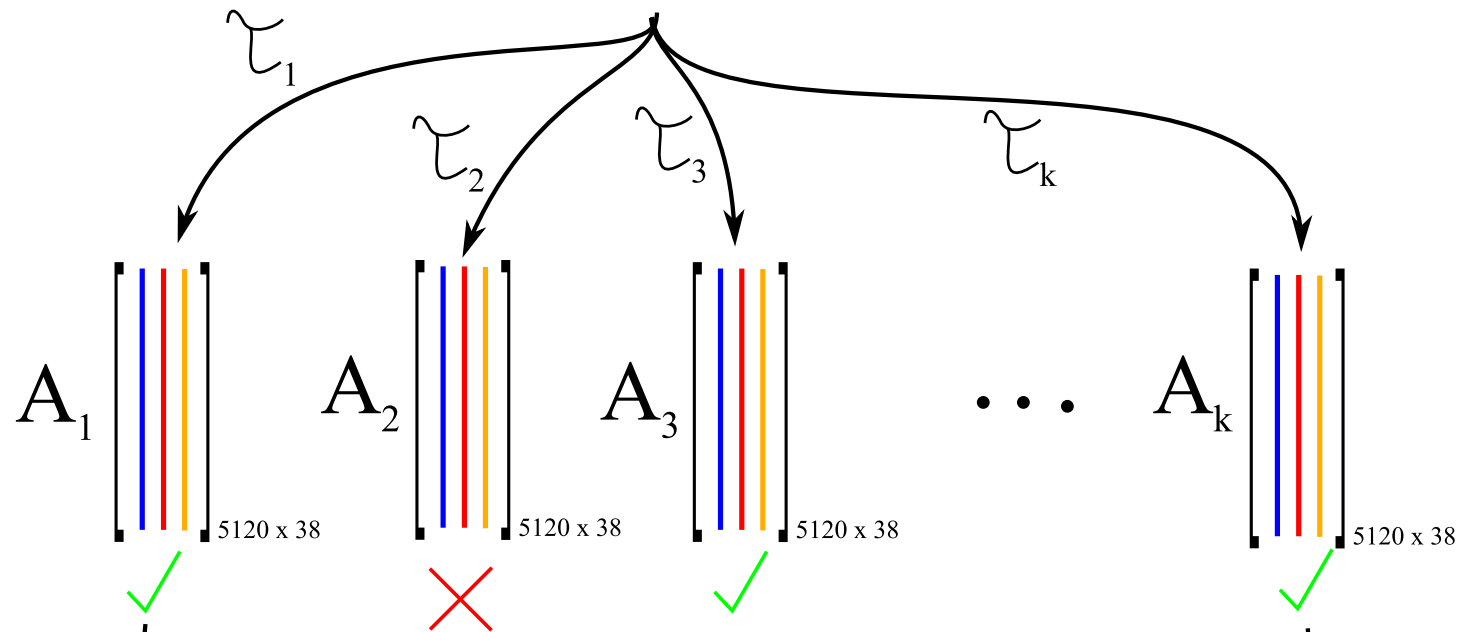
$$A = [\, \tau_1^{-1}(A_1) \quad \tau_3^{-1}(A_3) \quad \tau_4^{-1}(A_4) \cdots \tau_k^{-1}(A_k)\,]$$

Step 2:
Recognition