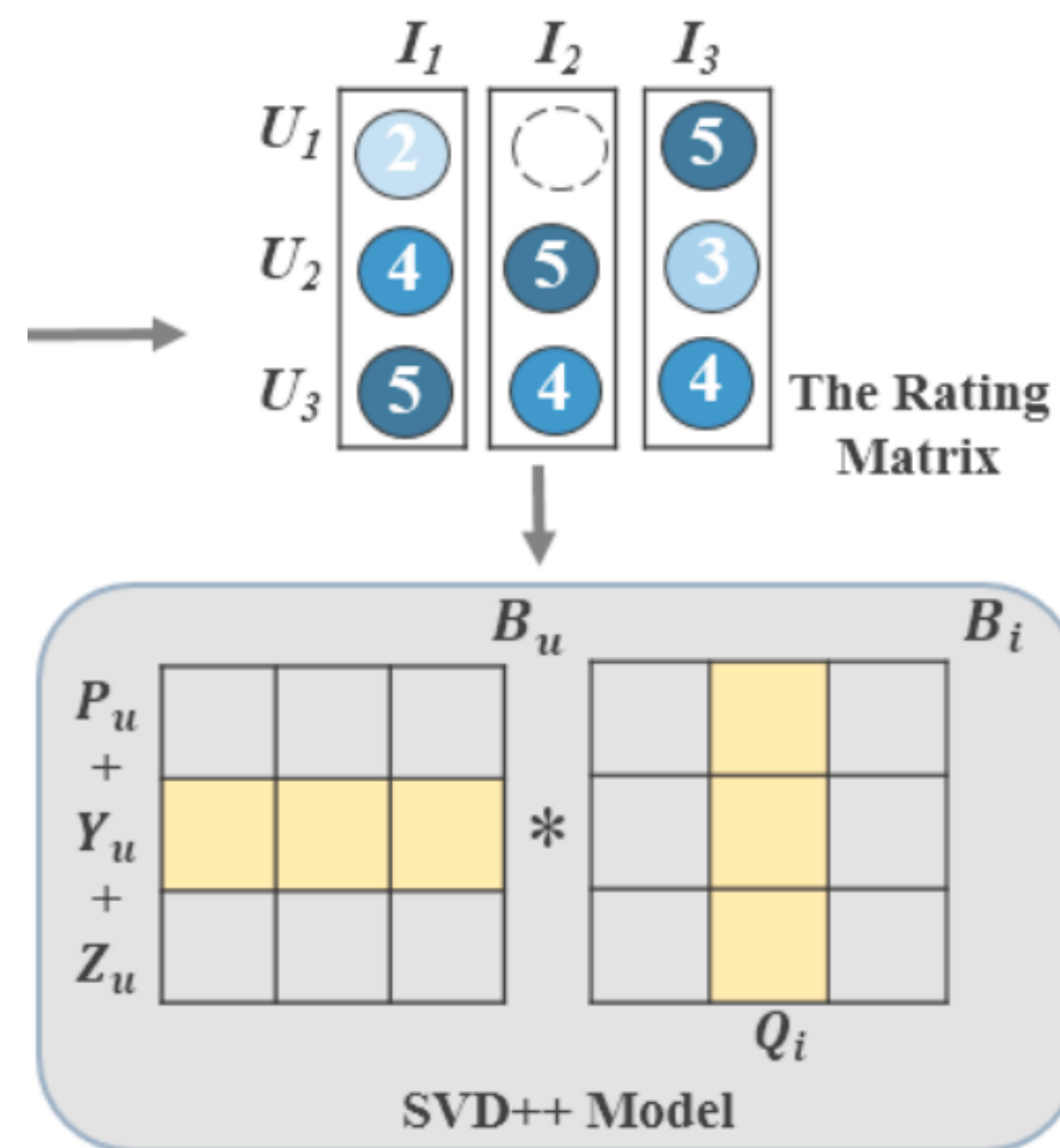


Dual auto-encoders and obj2vec



Neural networks can be used to learn patterns and then reconstruct them.
This has been used to learn the latent factors of the rating matrix



Instead of matrices we use lists
 (user₁₀ , cause₄₅₆ , rating_{10, 456})
 (user₇₆₂₀ , cause₈₀₄ , rating_{7620, 804})
 (user₉₂₆ , cause₁₂₅ , rating_{926, 125})
 ...

And the auto-encoder builds the embedding matrices:
 ξ_1 and ξ_2
 Where the equivalent to UV matrix decomposition would have been:
 $R_1 \approx B_u$ (The features are the items)
 $R_2 \approx B_i$ (The features are the users)

