

# Comparing Unsupervised Word Translation Methods Step by Step

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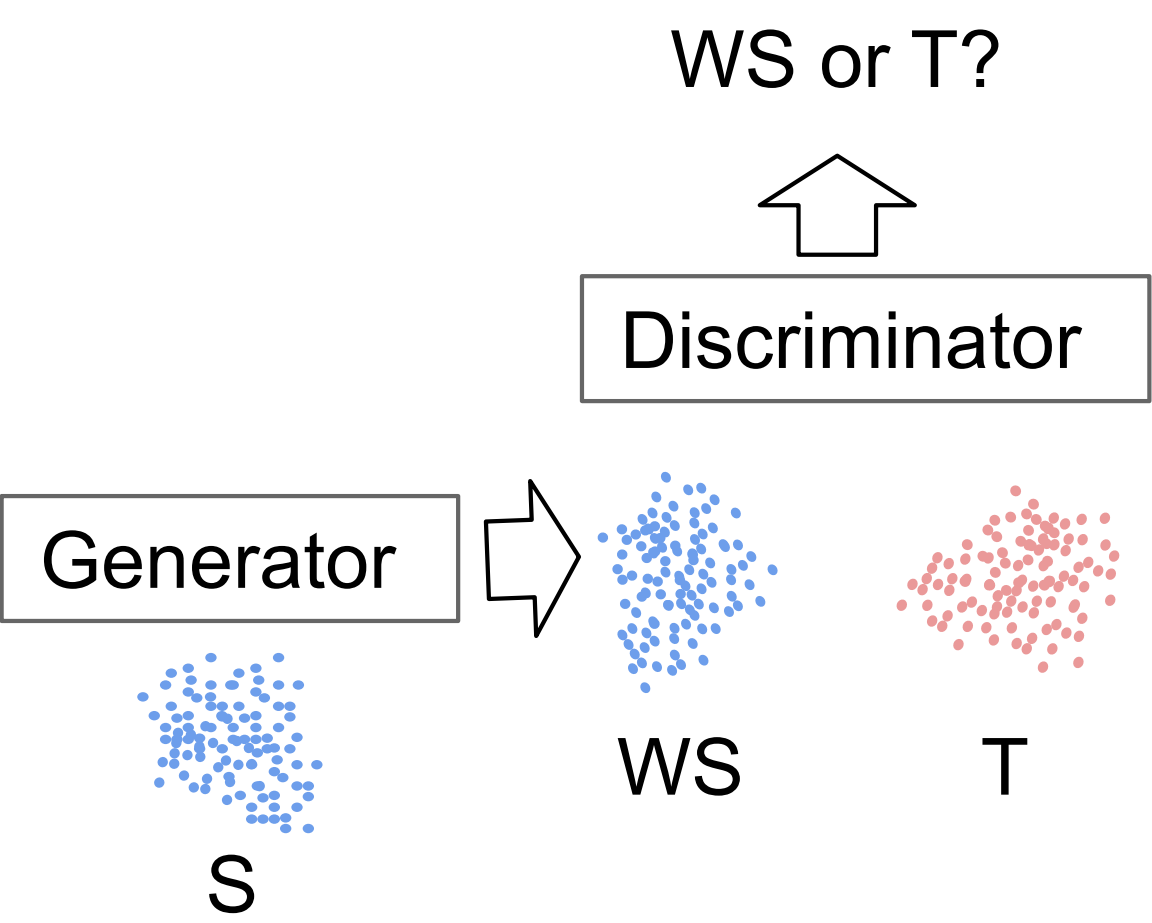
## Task:

Align monolingual word embeddings such that representations of translations are close to each other

$$W^* = \underset{W}{\operatorname{argmin}} ||WS_d - T_d||$$

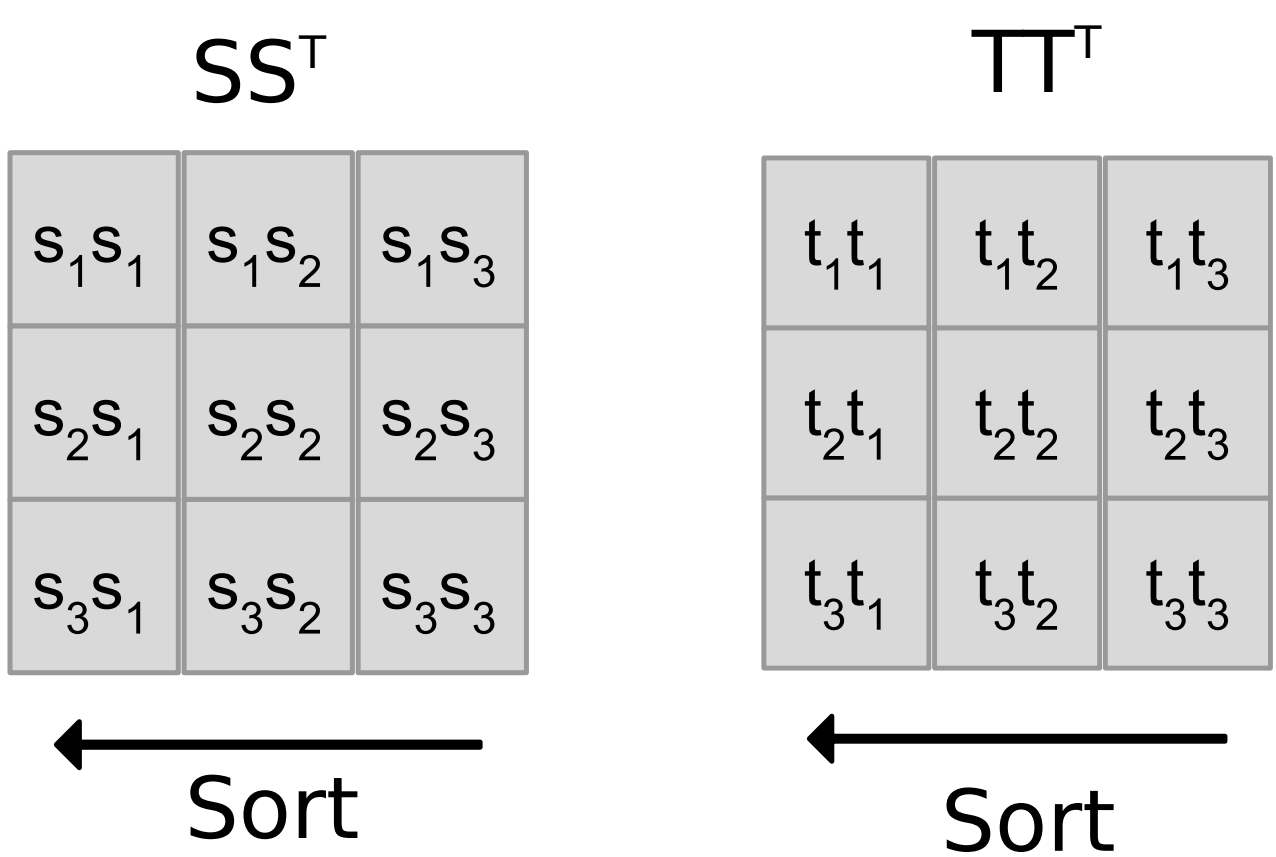
## Models:

Generative Adversarial Network (MUSE, Conneau et al. 2018):



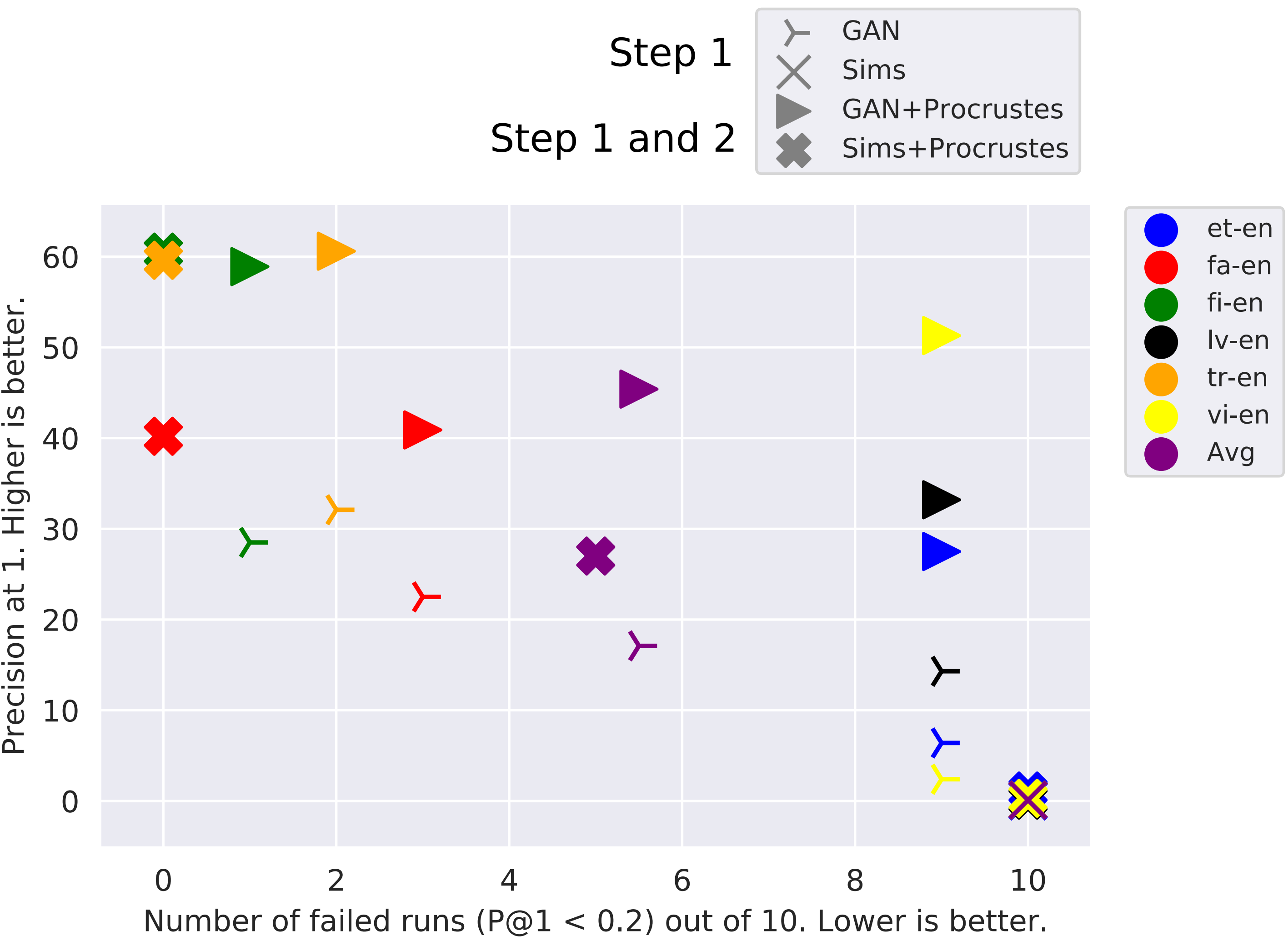
Procrustes:  
Closed form solution to equation (1)

Second order similarities (VecMap, Artetxe et al. 2018):



Procrustes with Stochastic Dictionary Induction (SDI):

## Experiments:



Select best of 10 GAN initializations and combine it with SDI

