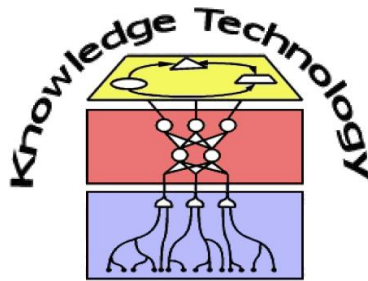


# A Personalized Affective Memory Model for Improving Emotion Recognition

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Knowledge Technology

Department of Informatics, University of Hamburg



<http://www.informatik.uni-hamburg.de/WTM/>

# Generalization X Personalization

- First impression counts



- I know you. I guess.



Happy



Happy

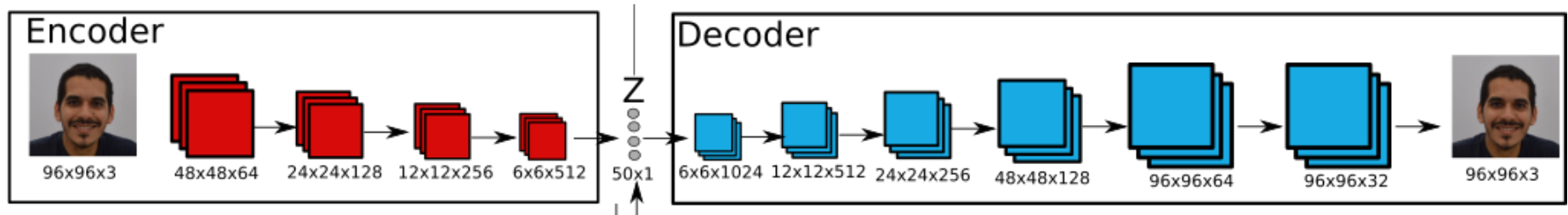


Happy

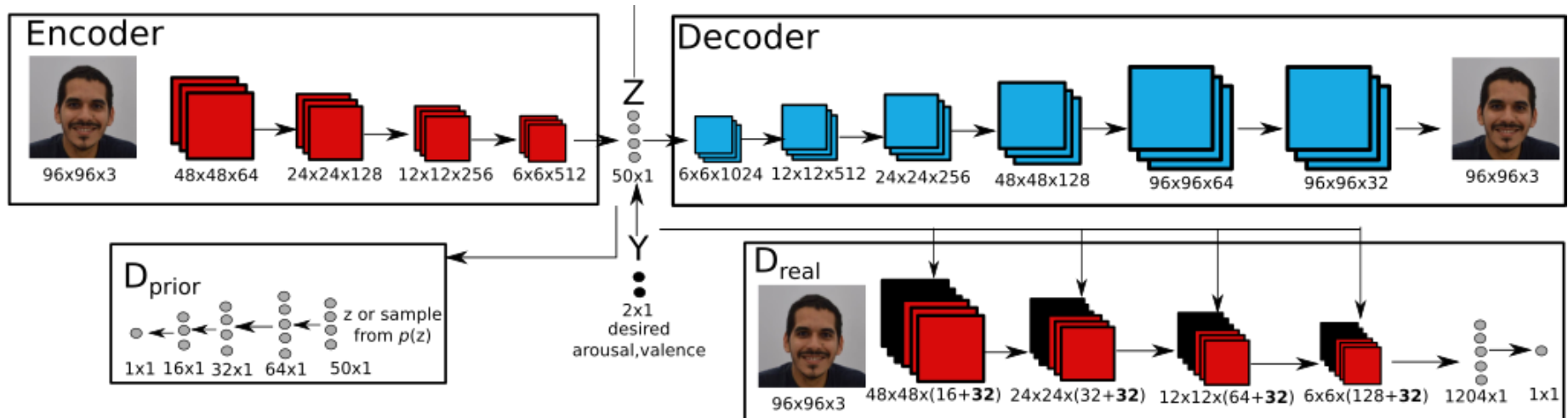


(Maybe) Happy

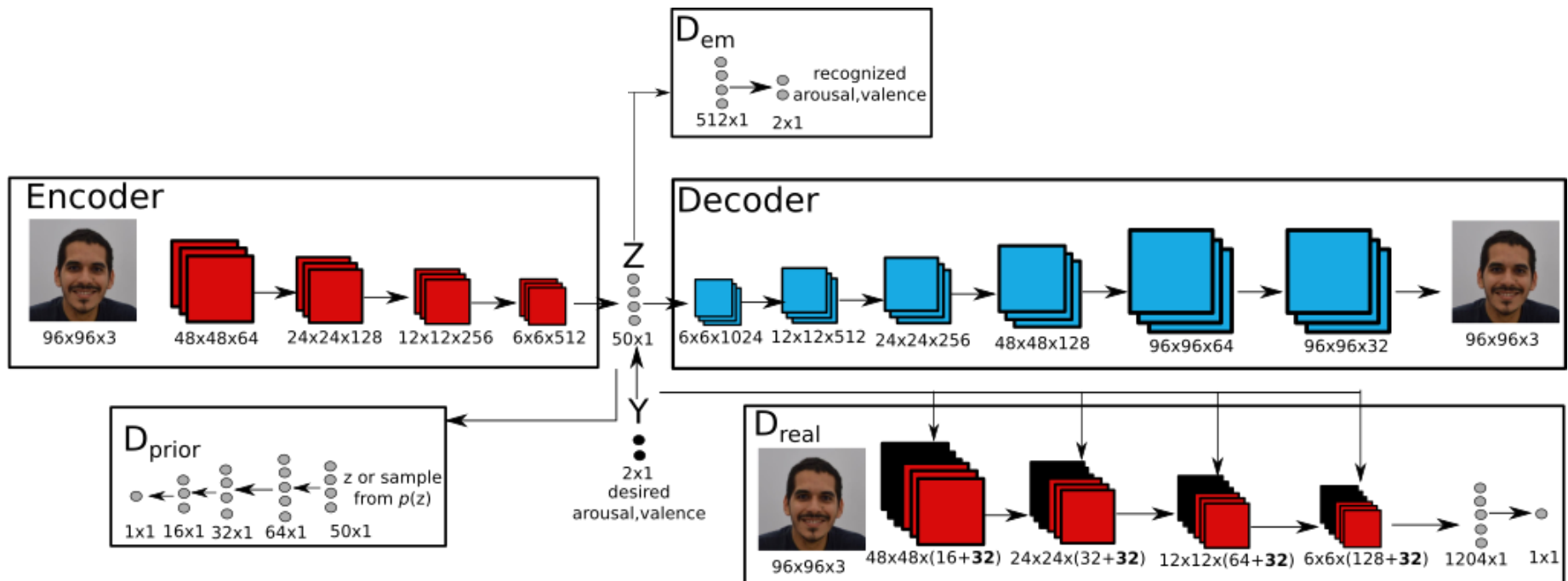
# Generalization and Personalization



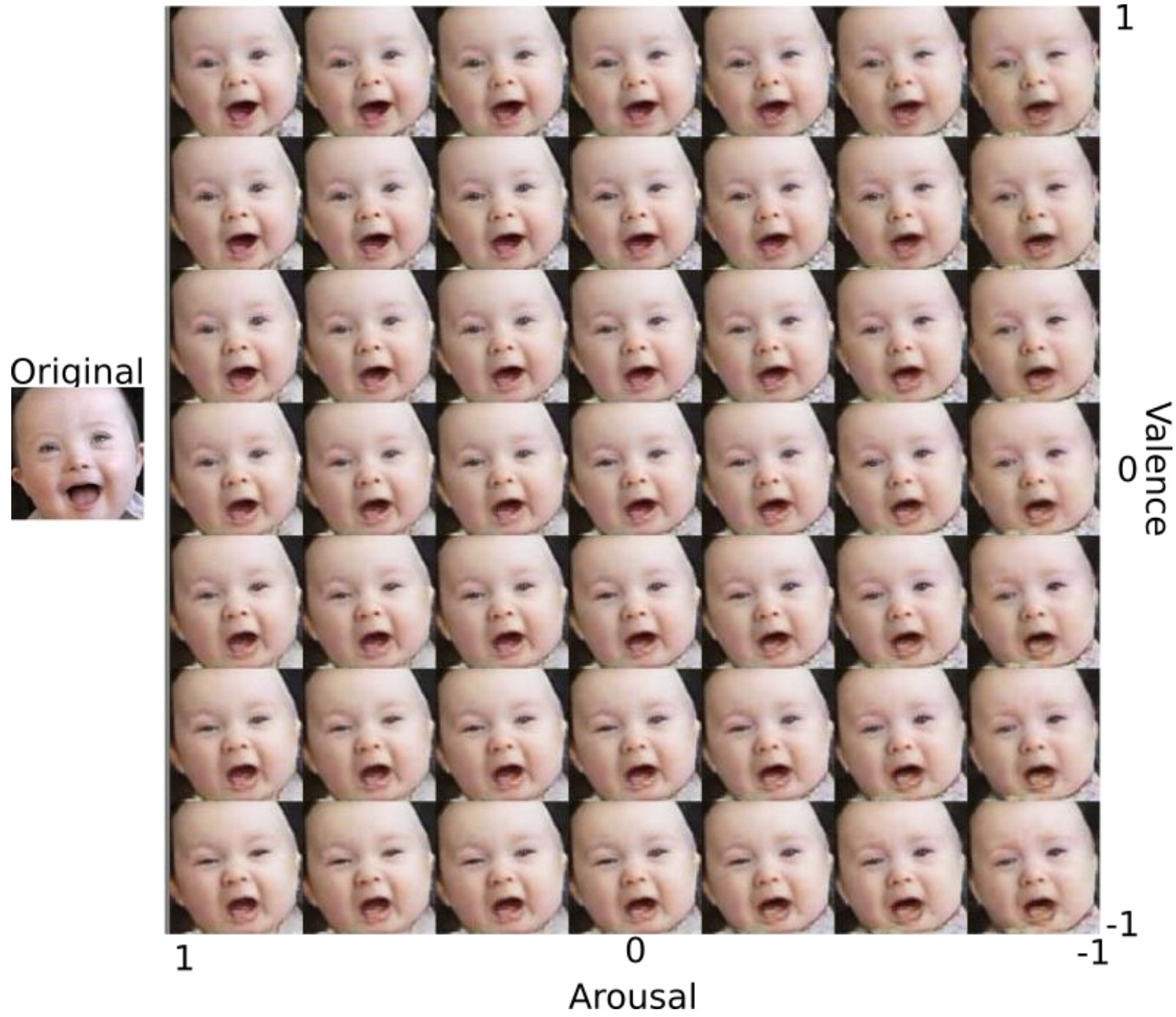
# Generalization and Personalization



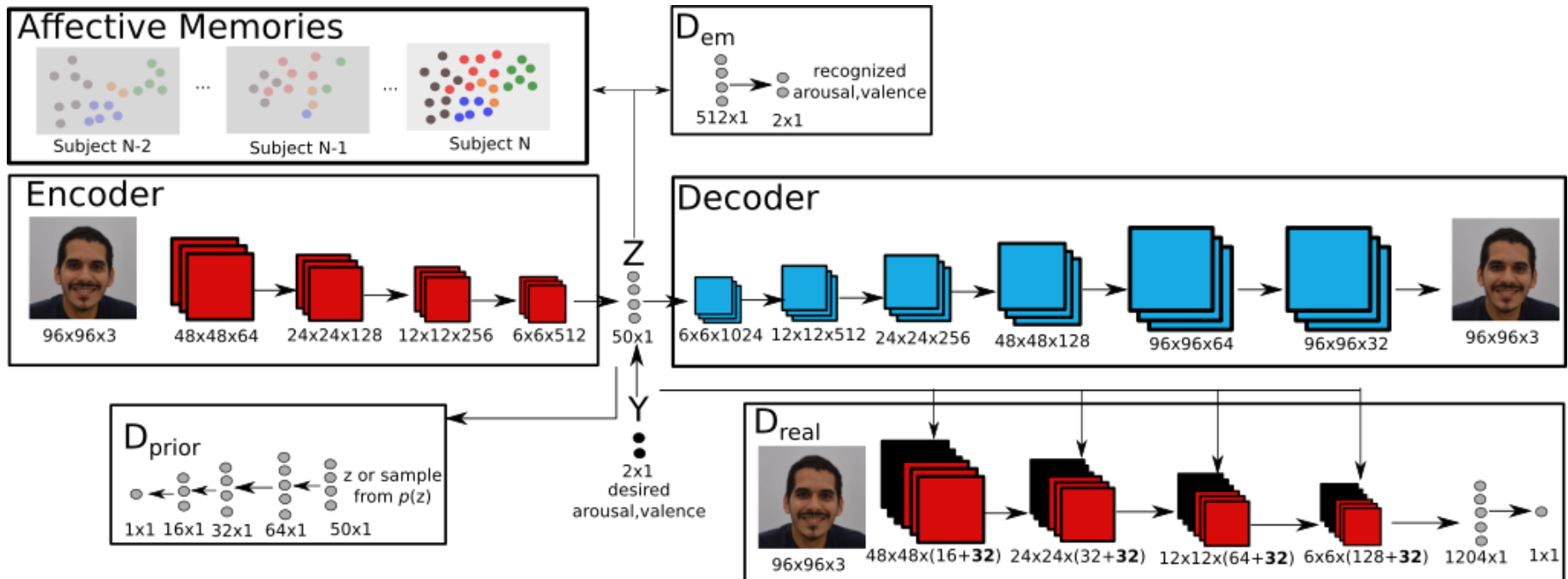
# Generalization and Personalization



# Generalization and Personalization

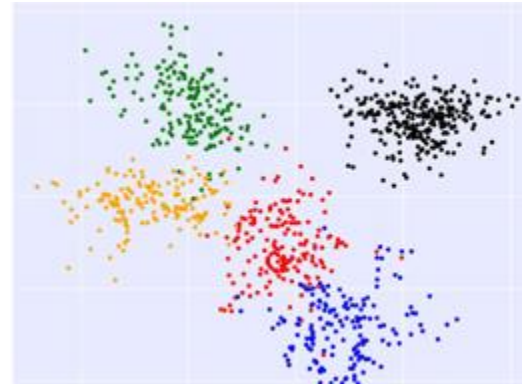
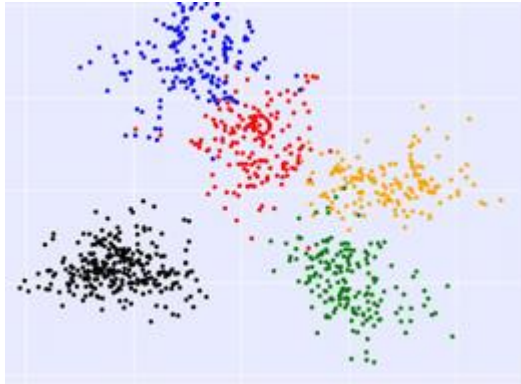


# Generalization and Personalization



# Generalization and Personalization

- Individual Growing-When-Required (GWR) networks
  - Cluster facial representations from one single person



- Learning modulation
  - If it is a new face, I learn faster.

$$\Delta \mathbf{w}_j = \epsilon_i \cdot h_i \cdot (\mathbf{x} - \mathbf{w}_j) \cdot (1 - a(i))$$

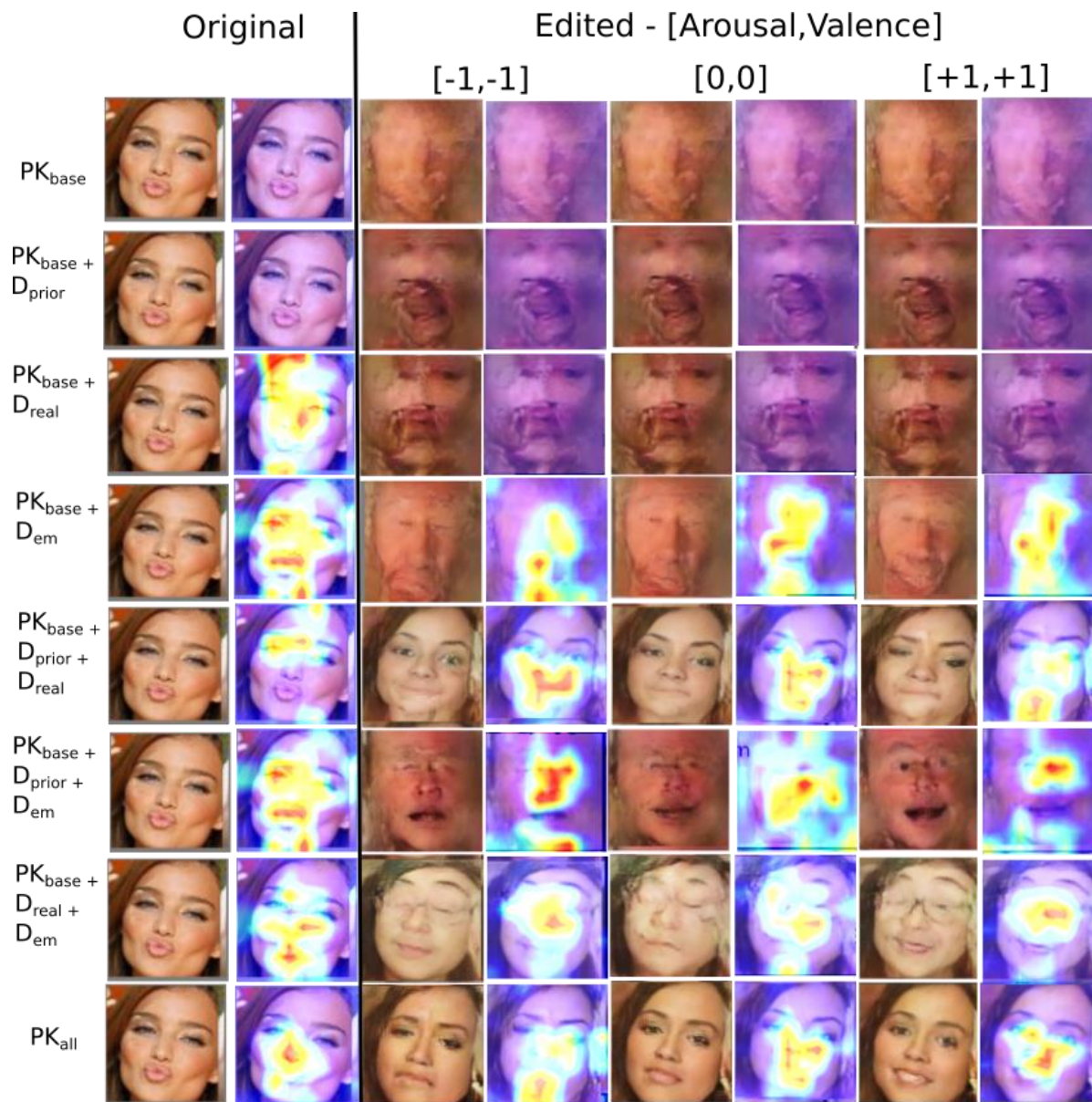


# Emotional Monologue Videos

- OMG-Emotion dataset

Model	Arousal	Valence
<b>P-AffMem</b>	<b>0.43</b>	<b>0.53</b>
(Zheng et al. 2018)	0.36	0.49
(Peng et al. 2018)	0.24	0.43
(Deng et al. 2018)	0.27	0.35

# Understanding the model



**Thank you!**

**Questions?**

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