

Improving Long Distance Slot Carryover for Spoken Dialogue Systems

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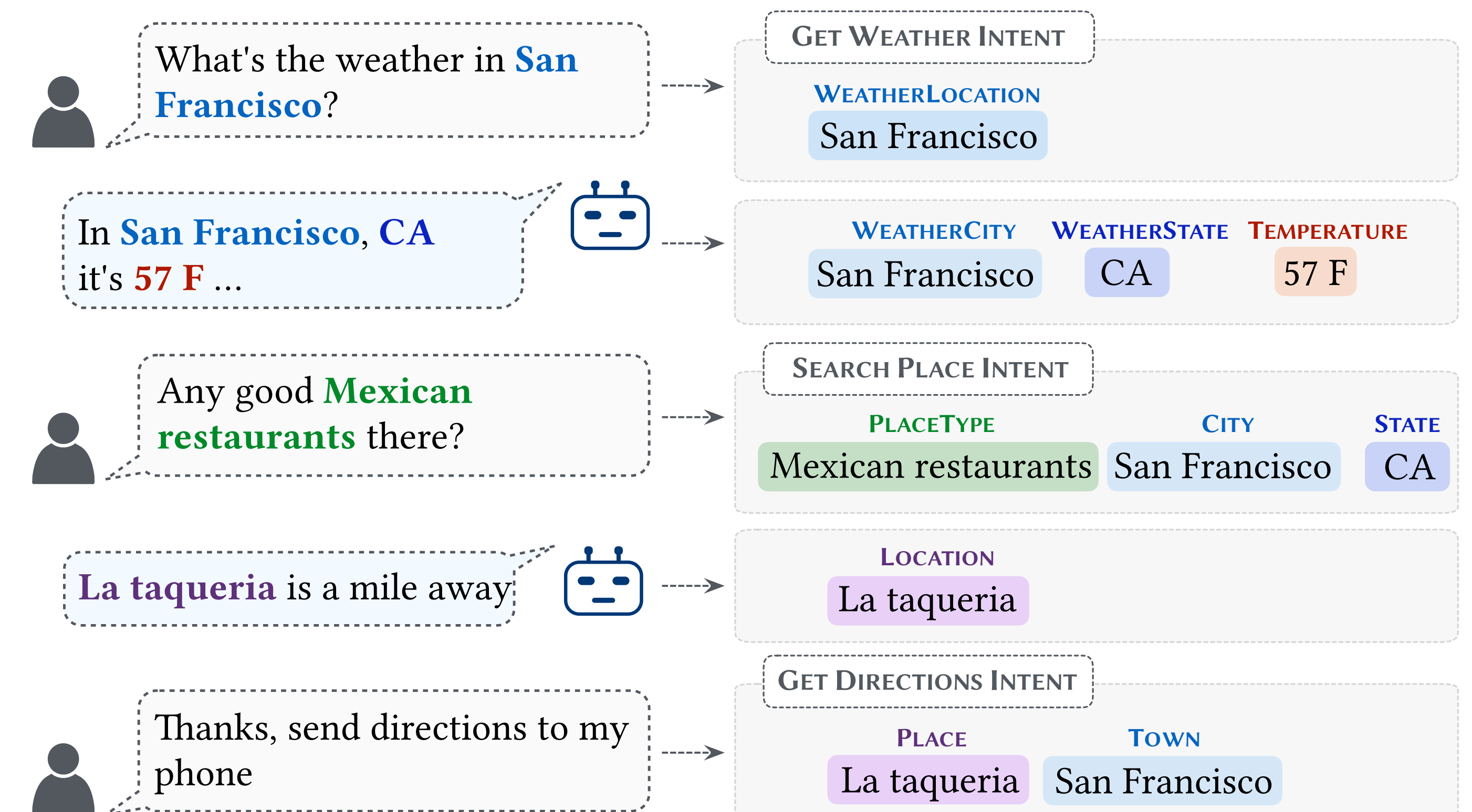
SUMMARY

Jointly models contextual slots instead of modeling independently

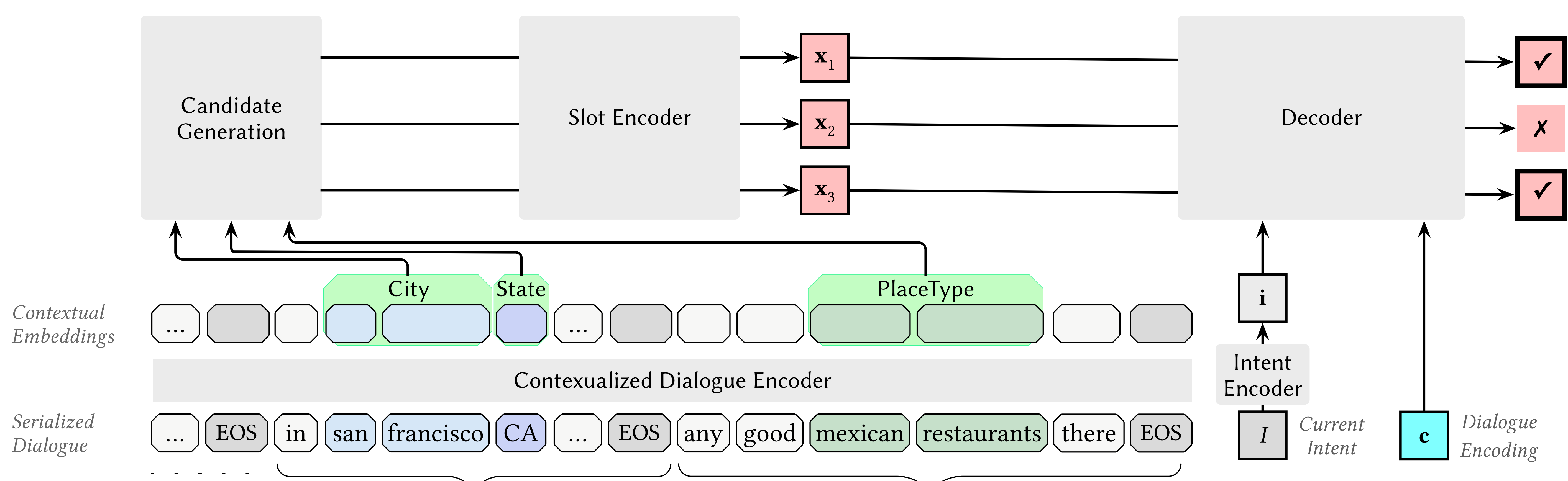
A subset decoding problem:

- Via pointer networks;
- Via transformers

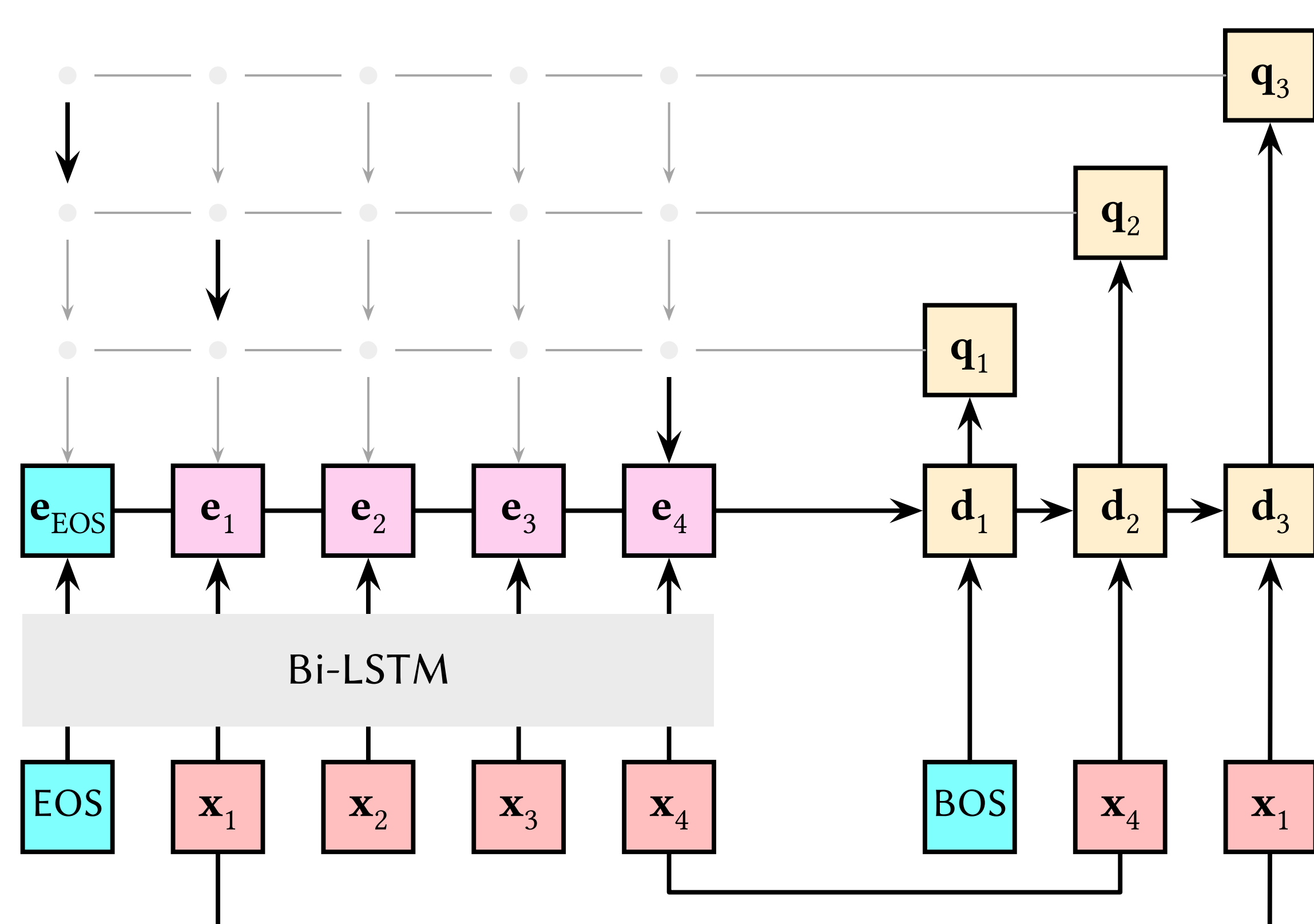
Leads to improved performance on *long distance* contextual carryover



GENERAL ARCHITECTURE

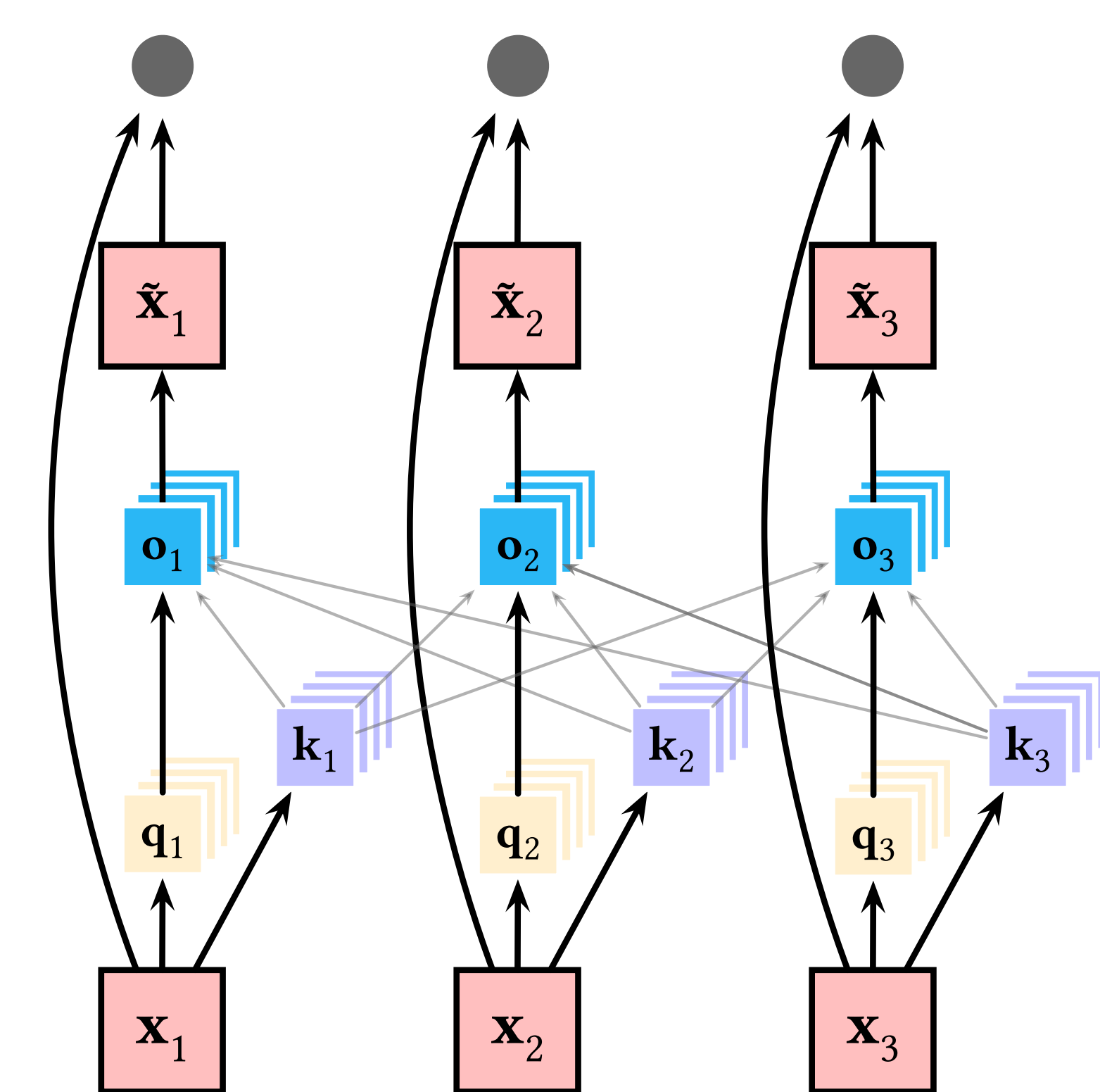


POINTER NETWORK DECODER



DATA

TRANSFORMER DECODER



RESULTS

• Alexa Internal:

- 156k dialogues from 7 domains:
- Music, Q&A, Video, Weather, Local Businesses, Home Automation

• DSTC2:

- Top ASR hypothesis as the user utterance
- All slots from SLU with score > 0.1 as candidate slots

