Label-Aware Chinese Event Detection with Heterogeneous Graph Attention Networks

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Research Objectives

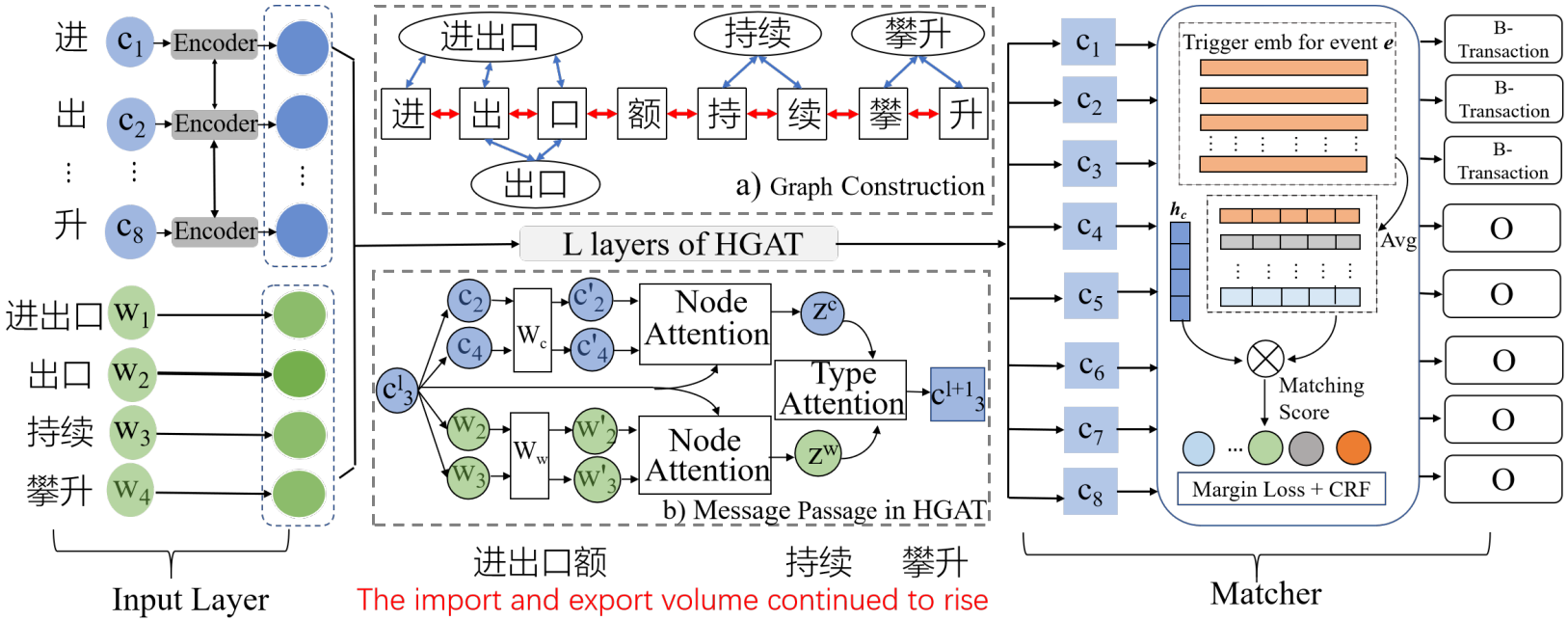
- **Task**:
  - Chinese Event Detection (Chinese ED)

- **Problem**:
  - insufficient word-character interaction
  - event confusing

- **Purpose of our research:**
  - Improve Chinese ED performance by handling the two issues above**.**

- **Contributions of this paper:**
  - To our best knowledge, we are the first to model the word-character interaction using a heterogeneous graph in Chinese ED.
  - A matcher module to discriminate confusing event labels.
  - Remark performances on ACE2005 and KBP2017.

Research Method



- **Insufficient Word-Character Interaction**
  - A heterogeneous word-character interactive graph is constructed and heterogeneous graph attention networks works for semantics propagation.
- **Event Confusing**
  - A matcher module wiwh a pushing-away game is designed to enlarge the predicting gap between ground-truth event type and its confusing counterpart for each character.

Research Results

- **Main Results**
  - The state-of-the-art performances on ACE2005 and KBP2017.
- **Ablation Study**
  - The effectiveness of constructoin to the word-character interactive graph.
  - The effectiveness of graph embedding strategy.
  - How the matcher contributes to discriminate the confusing event labels.
- **Analysis**
  - The Word-character Mismatch problem could be alleviated
  - The Interpretability of Event Label Embedding

Research Conclusions

- **Conclusion**
  - Sufficient exploitation of interaction between words and characters helps to boost performance.
  - A a pushing-away game, which incorporates prior semantics of event labels and employing a margin loss, helps to predict event triggers more precisely.

- **Future Works**
  - Explore our method for Named Entity Recognition (NER) task.