# Contrast and Generation Make BART a Good Dialogue Emotion Recognizer

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https://github.com/whatissimondoing/CoG-BART.

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# Experiments

| Dataset | MELD | | EmoryNLP | | IEMOCAP | | DailyDialog | |
|---|---|---|---|---|---|---|---|---|
| Model | Weighted -Avg-F1 | Micro-F1 | Weighted -Avg-F1 | Micro-F1 | Weighted -Avg-F1 | Micro-F1 | Weighted -F1-neural | Micro -F1-neutral |
| BERT | 62.28 | 63.49 | 34.87 | 41.11 | 60.98 | - | 53.41 | 54.85 |
| RoBERTa | 62.51 | 63.75 | 35.90 | 40.81 | 63.38 | - | 52.84 | 54.33 |
| HiTrans | 61.94 | - | 36.75 | - | 64.50 | - | - | - |
| DialogXL | 62.41 | - | 34.73 | - | 65.94 | - | - | 54.93 |
| XLNet | 61.65 | - | 34.13 | - | 61.33 | - | - | 53.62 |
| BART-large | 63.57 | 64.41 | 35.98 | 38.93 | 56.14 | 56.67 | 54.83 | 55.34 |
| CoG-BART | **64.81** (±0.19) | **65.95** (±0.44) | **39.04** (±0.10) | **42.58** (±0.94) | **66.18** (±0.45) | **66.71** (±0.49) | **56.09** (±0.01) | **56.29** (±0.17) |

Table 2: The overall results of CoG-BART with pre-train-based baseline models on four datasets.

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# Speaker-Guided Encoder-Decoder Framework for Emotion Recognition in Conversation

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# Experiments

| Dataset | Conversations | | | Utterances | | |
|---|---|---|---|---|---|---|
| | Train | Val | Test | Train | Val | Test |
| IEMOCAP | 120 | | 31 | 5810 | | 1623 |
| MELD | 1038 | 114 | 280 | 9989 | 1109 | 2610 |
| EmoryNLP | 713 | 99 | 85 | 9934 | 1344 | 1328 |

Table 1: The statistics of three datasets.

| Model | MELD | EmoryNLP | IEMOCAP |
|---|---|---|---|
| KET | 58.18 | 33.95 | 59.56 |
| COSMIC | 65.21 | 38.11 | 65.28 |
| DialogueRNN | 57.03 | - | 62.75 |
| + RoBERTa | 63.61 | 37.44 | 64.76 |
| DialogueCRN | 58.39 | - | 66.20 |
| + RoBERTa | 63.42 | 38.91 | 66.46 |
| RoBERTa | 62.88 | 37.78 | 63.38 |
| **SGED + RoBERTa** | **63.34** | **38.47** | **64.11** |
| bc-LSTM+att | - | - | - |
| + RoBERTa | 62.95 | 38.28 | 64.51 |
| **SGED + bc-LSTM+att** | **63.37** | **38.89** | **65.03** |
| DialogueGCN | 58.10 | - | 64.18 |
| + RoBERTa | 63.02 | 38.10 | 64.91 |
| **SGED + DialogueGCN** | **64.55** | **39.73** | **65.90** |
| DAG-ERC | 63.65 | 39.02 | 68.03 |
| DAG-ERC* | 63.39 | 38.84 | 67.45 |
| **SGED + DAG-ERC*** | **65.46** | **40.24** | **68.53** |

Table 2: Overall performance on the three datasets. We choose weighted-average F1 to evaluate each method. DAG-ERC* means that we use the one-layer DAG-ERC.

# Supervised Prototypical Contrastive Learning for Emotion Recognition in Conversation

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**Reported by Yidan Liu**

https://github.com/caskcsg/SPCL

# Experiment

| Models | IEMOCAP | MELD | EmoryNLP |
|---|---|---|---|
| COSMIC(Ghosal et al., 2020) | 65.28 | 65.21 | 38.11 |
| DialogueCRN (Hu et al., 2021) | 66.46 | 63.42 | 38.91 |
| DAG-ERC (Shen et al., 2021) | 68.03 | 63.65 | 39.02 |
| TODKAT (Zhu et al., 2021) | 61.33 | 65.47 | 38.69 |
| Cog-BART (Li et al., 2021) | 66.18 | 64.81 | 39.04 |
| TUCORE-GCN_RoBERTa(Lee and Choi, 2021) | - | 65.36 | 39.24 |
| SGED + DAG-ERC(Bao et al., 2022) | 68.53 | 65.46 | 40.24 |
| EmotonFlow-Large (Song et al., 2022) | - | 66.50 | - |
| CoMPM (Lee and Lee, 2021) | 69.46 | 66.52 | 38.93 |
| SPCL-CL-ERC(Ours) | **69.74** | **67.25** | **40.94** |

Table 1: Performance comparisons on three datasets.

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# Mutual Conversational Detachment Network for Emotion Recognition in Multi-Party Conversations


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**Reported by Yidan Liu**

**Code: https: //github.com/circle-hit/MuCDN**

# Experiment

| Model | EmoryNLP | MELD |
|---|---|---|
| **ERMC Methods** | | |
| ConGCN | - | 57.40 |
| DialogXL | 34.73 | 62.41 |
| ERMC-DisGCN | 36.38 | 64.22 |
| **ERC Methods with CSK** | | |
| KET | 34.39 | 58.18 |
| KAITML | 35.59 | 58.97 |
| KI-Net | - | 63.24 |
| SKAIG | 38.88 | 65.18 |
| COSMIC | 38.11 | 65.21 |
| COSMIC w/o CSK | 37.10 | 64.28 |
| **ERC Methods without CSK** | | |
| DialogueRNN | 31.7 | 57.03 |
| DialogueGCN | - | 58.1 |
| IEIN | - | 60.72 |
| RGAT | 34.42 | 60.91 |
| DialogueCRN | - | 58.39 |
| DAG-ERC | 39.02 | 63.65 |
| MuCDN (Ours) | **40.09** | **65.37** |

Table 2: Comparison of our model against state-of-the-art baselines. CSK represents the commonsense knowledge utilized in COSMIC. Weighted F1 score is adopted as evaluation metrics.

| Model | EmoryNLP | MELD |
|---|---|---|
| MuCDN | **40.09** | **65.37** |
| w/o explicit detachment | 38.45 | 64.45 |
| w/o implicit detachment | 38.84 | 64.47 |
| w/o E2I interaction | 39.28 | 64.61 |
| w/o I2E interaction | 39.54 | 64.56 |

Table 3: Results of ablation study on the two ERMC datasets. E2I interaction is the relative position embedding provided by explicit detachment, while I2E interaction is the complementary global information from implicit detachment.

# CauAIN: Causal Aware Interaction Network for Emotion Recognition in Conversations

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Code： https://github.com/circle-hit/CauAIN

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Reported by Renhui Luo

# Experiments

| Model | IEMOCAP | DailyDialog | | MELD |
|---|---|---|---|---|
| | weighted-F1 | micro-F1 | macro-F1 | weighted-F1 |
| ICON | 58.54 | - | - | - |
| DialogueRNN | 62.57 | 55.95 | 41.8 | 57.03 |
| DialogueGCN | 64.18 | - | - | 58.1 |
| IEIN | 64.37 | - | - | 60.72 |
| DialogueCRN | 66.2 | - | - | 58.39 |
| RGAT | 65.22 | 54.31 | - | 60.91 |
| COSMIC | 65.28 | 58.48 | 51.05 | 65.21 |
| DialogXL | 65.94 | 54.93 | - | 62.41 |
| KI-Net | 66.98 | 57.3 | - | 63.24 |
| SKAIG | 66.96 | **59.75** | 51.95 | 65.18 |
| CauAIN (Ours) | **67.61** | 58.21 | **53.85** | **65.46** |
| w/o Inter Cause | 64.61 | 54.23 | 49.53 | 62.83 |
| w/o Intra Cause | 64.66 | 55.24 | 48.7 | 59.52 |
| w/o Causal Clue | 63.77 | 57.2 | 51.73 | 65.2 |
| | 66.36 | 57.59 | 52.70 | 64.81 |

Table 2: Comparison of our model against state-of-the-art baselines. Intra Cause and Inter Cause are the process of intra- and inter cause detection, respectively and Causal Clue refers to causal clue generated from COMET.