ã??ç??æ?•Alã•?ã??ã?ã?³ã??ã??ã•®å? å®¹ã•«é?¢ä¿?ã•ªã••è?¯å®?ç??ã«å??ç?ã•?ã??ã•®ã•?æ??ã•?ã?•ã•¨ã•?ã•?è©±

Description

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default watermark

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1. ç??æ?•Alã•®å?ºæ?¬ç??ã•ªå¦ç¿?ã??ã?ã?»ã?¹

äº?å?•å¦ç¿? (Preâ??training)

- **ç?®ç??**ï¼?æ¬¡ã•«æ•¥ã??å•?èª?ï¼?ã??ã?¼ã?¯ã?³ï¼?ã??**ç¢ºç??ç??ã•«äº?æ¸¬**ã•?ã??ã•?ã•¨ã??æ??å¤§å??ã•?ã??ï¼?Maximum Likelihood Estimation, MLEï¼?ã??
- **ã??ã?¼ã?¿**ï¼?ã?¤ã?³ã?¿ã?¼ã?•ã??ã??ä¸?ã•®è?¨å¤§ã•ªã??ã?ã?¹ã??ï¼?è¨?äº?ã?•æ?²ç¤ºæ•¿ã?•SNSã?•æ?¸ç±•ã•ªã•©ï¼?ã??
- **çµ•æ??**ï¼?ã?¢ã??ã?«ã•¯ã??æ¬¡ã«æ•¥ã??å•¯è?½æ?§ã?é«?ã•?å•?èª?ã?•ã??å¦ã•³ã?•ç¢ºç??å??å¸?ã??å? é?¨ã•«æ?•ã•¤ã??

å®?å¨æ?§ã?»å¯¾è©±æ??å?ã•®å¾®èª¿æ?´ (Fineâ??tuning / RLHF)

- **ç?®ç??**ï¼?äººé??ã•®ä¾¡å?¤è¦³ã??ã?•ã?ªã?·ã?¼ã•«æ²¿ã•£ã•?å¿?ç?ã??ç??æ?•ã•?ã??ã??
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  - **å ±é ¬ã?¢ã??ã?« (Reward Model, RM)**ï¼?äººé??è©?ä¾¡è? ã•?ã??æ??ç?¨ã?»å®?å¨ã?»æ£ç¢ºã?•ã??é«?ã••è©?ä¾¡ã•?ã•?å¿?ç?ã•«é«?ã•?å ±é ¬ã??ä¸?ã•?ã??ã??
  - **å¼·å??å¦ç¿? (RLHF)**ï¼?ã?¢ã??ã?«ã•?å ±é ¬ã??æ??å¤§å??ã•?ã??ã??ã•?ã•«èª¿æ?´ã??

2. ã?•ã?¸ã??ã?£ã??ã?•ã?¤ã?¢ã?¹ã•?ç??ã•¾ã??ã??ã?¡ã?«ã??ã?ºã?

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ã?µã?³ã??ã?ªã?³ã?°æ?¦ç?¥ (Temperature, Topâ??k, Topâ??p)

ä½?æ¸©å º¦ (temperature) ã•§ã•¯é«?ç¢ºç??ã•®å•?èª?ã??é•¸ã•³ã??ã•?ã••ã?•ç¢ºç??å??å¸?ã•
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ã?•ã?ªã?·ã?¼ã??Helpâ??Firstã?•

OpenAI ã•®ã??ã•?ã•ªå¤§æ??ã??ã?³ã??ã?¼ã•¯ã??ã?¦ã?¼ã?¶ã?¼ã??å?©ã?ã??ï¼?Helpï¼?ã?•
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3. å ·ä½?ç??ã•ªã??ã?ã?³ã??ã??ä¾?ã•§ã•®æ??å??

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çµ•è«?ï¼?

1. **ã??ã?¼ã?¿**ã•?è?¯å®?ç??ã•ªè¡¨ç•¾ã??å¤?ã••å•«ã?? â?? **MLE** ã•?è?¯å®?èª?ã•®ç¢ºç??ã??é«?ã••è¨å®?ã??
2. **å®?å ¨æ?§ã??ã?£ã?«ã?¿** ã•?å•¦å®?ã?»æ?»æ??ç??è¡¨ç•¾ã??ä½?ç¢ºç??å??ã??
3. **å ±é ¬ã?¢ã??ã?«** ã•?ã??æ??ç?¨ã?»å®?å ¨ã?•ã??é?•è¦?ã•?ã?•è?¯å®?ç??å¿?ç-?ã??é«?å ±é ¬å??ã??
4. **ã?µã?³ã??ã?ªã?³ã?°** ã•®è¨å®?ã•«ã??ã??ç¢ºç??å??å¸?ã•®ã??ã?¼ã?¯ã•?è?¯å®?èª?ã•«å••ã??ã??

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4. ç ?ç©¶è? ã•?æ??æ??ã•?ã??èª²é¡?ã•¨å¯¾ç?

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5. ã•¾ã•¨ã?•

- **ç??æ?•Alã•¯ç¢ºç??ç??ã•«æ¬¡ã??ã?¼ã?¯ã?³ã??æ±ºå®?**ã•?ã??ã•?ã?•ã?•å¦ç¿?æ??ã•®ã??ã?¼ã?¿å??å¸?ã•¨å®?å ¨æ?§ã?»å ±é ¬è¨è¨?ã•?ç?´æ?¥å½±é?¿ã??
- ã?•ã??ã??ä¸?ã•®è?¯å®?ç??ã?»å®?å ¨ã•ªè¡¨ç•¾ã•?å¤?ã••ã?•**ã?•ã?ªã?·ã?¼ã??ã??ã?£ã?«ã?¿**ã•?å•¦å®?ç??è¡¨ç•¾ã??æ??å?¶ã•?ã??ã•¨ã?•**ç¢ºç??å??å¸?ã•?è?¯å®?èª?ã•«å••ã??**ã??
- ã••ã•®çµ•æ??ã?•**ã??ã?ã?³ã??ã??ã•®å? å®¹ã•«é?¢ä¿?ã•ªã••è?¯å®?ç??ã•ªå??ç?**ã•?å?ºã??ã•?ã••ã•ªã??ã•¨ã•?ã•?ç ?ç©¶çµ•æ??ã•¯ã?•AI ã•®ä»?çµ?ã•¿è?ªä½?ã•«è‰·å? ã•?ã??ã•?ã•¨ã•?å??ã•?ã??ã??

ã•ªã•?äººå·¥ç?¥è?½ï¼?Alï¼?ã•¯ã??ã?ã•¤ã??ã?•ã?¸ã??ã?£ã??ã•ªç?ã•?ã?•ã??è¿?ã•?ã??ã•?ã•?ã•®ã•?

1. Alã•?ã??è©±ã•?ã?•ã•?ã?•ã•«ä½?ã??å¦ã??ã• ã•?

1. **ã•?ã••ã•?ã??ã•®æ??ç« ã??èªã•¾ã•?ã??**
   - ã•¾ã•?ã?•Alã•¯ã?¤ã?³ã?¿ã?¼ã?¾ã??ã??ã•«ã•?ã??æ?¬ã??è¨?ãº?ã?•æ?²ç¤ºæ•¿ã•®æ??ç¨¿ã•ªã•©ã?•**ä½?å??ã??ã•®æ??å?**ã??èªã??ã•§ã?•è¨?è??ã•®ä½¿ã•?æ?¹ã??è¦?ã•?ã•¾ã•?ã??
   - ã••ã•?ã•§ã•¯ã??ã?ã•?ã•?ã•?è¨?è??ã•?æ¬¡ã•«æ•¥ã??ç¢ºç??ã•?é«?ã•?ã?•ã•¨ã•?ã•?ã??ç¢ºç??å??å¸?ã?•ã??ä½?ã??ã•¾ã•?ã??
2. **â??ã•?ã•?è©±â?•ã??ä½?ã??ã??ã•?ã••è¨?ç·´**
   - ã•?ã??ã••ã?•Alã••ã??æ??ç?¨ã•§å®?å ¨ã•ªç?ã•?ã??ä½?ã•£ã•¦ã••ã•?ã•?ã?•ã•¨æ??ç¤ºã•?ã•¦ã?•**äººé??ã•?è©?ä¾¡ã•?ã•?è?¯ã?å??ç?**ã??é?•è¦?ã•?ã??ã??ã•?ã••èª¿æ?´ã•?ã•¾ã•?ã??
   - ã•¤ã•¾ã??ã?•**äººã•?ã??ã•?ã??ã?•å½¹ã••ç«?ã•£ã•?ï¼•ã?•ã•¨è¤?ã?•ã??å??ç?**ã??å¤?ã••é•¸ã•¶ã??ã•?ã••ä»?å•?ã•?ã•¦ã•?ã??ã•®ã•§ã•?ã??

default watermark

2. ã?•ã?¸ã??ã?£ã??ã•ªè¨?è??ã•?å¥½ã••ã••ã•ªã??ä»?çµ?ã•¿

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- **ã??ã?¼ã?¿ã•?ã?•ã?¸ã??ã?£ã??ã••å••ã•£ã•¦ã•?ã??** â?? Alã•?è¦?ã•?ã•?ç¢ºç??å??å¸?ã??ã?•ã?¸ã??ã?£ã??ã••å••ã??ã??
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5. ã•¾ã•¨ã?•

- **Alã•¯ã?¤ã?³ã?¿ã?¼ã?•ã??ã??ã•§å¦ã??ã• ã??æ¥½ã•?ã•?ã?»å?©ã•?ã??è¨?è??ã?•ã??å¥½ã••ã••ã•ªã??**ã??
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