

第十讲 英文学术论文之英文规范

——术语、符号、图表、文献规范

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系列报告主页：<https://mmlab-iie.github.io/course/>

2022.07 @ Bilibili



中国科学院 信息工程研究所
INSTITUTE OF INFORMATION ENGINEERING, CAS



中国科学院大学
University of Chinese Academy of Sciences

英语写作规范——八项注意

1. 精简的表达方式

2. 严谨的叙述逻辑

3. 专业的学术用语

4. 规范的符号使用

5. 标准的学术术语

6. 客观的图表绘制

7. 正确的文献引用

8. 坚守的学术道德

不太容易

比较容易

英语写作规范 (3) ——专业的学术用语

你的审稿人可能是…



当他打开你的论文，读到…

- This is **no doubt the first** and **the robust** model to achieve **the best** performance in VQA.
- **As we know**, the channel gain varies much more slower than the channel phase, **and we have thousands of ways to prove it.**
- His work is **good enough** to provide essential multimodal information for reasoning.

太绝对!

太口语!

太主观!



英语写作规范 (3) ——专业的学术用语

Tips: 阅读英文论文写作规范，告别懒惰！最容易提升！

导师“防秃”指南！

The Most Common Habits from more than 200 English Papers written by Graduate Chinese Engineering Students

By Felicia Brittman

This paper presents some of the most common Chinese-English habits observed from over two hundred English technical papers by Chinese writers. The habits are explained and in most cases, example text from an actual paper is given along with preferred text. An attempt is made to explain how to correct and prevent such mistakes. In some cases a possible explanation of why the habit occurs is also given. This paper can serve as an individual guide to editing technical papers especially when a native English-speaking editor is unavailable.

Introduction

Most Chinese universities require their doctoral and master candidates in technical and scientific fields to publish at least one English paper in an international journal as a degree requirement. However, many factors make this task difficult to accomplish. First, previous English studies may not have focused enough on writing, let alone technical writing. Current studies may not include English, causing the writers English fluency level to decline. Second, most writers have never lived in an English-speaking country. Third, due to the special aspects of technical writing, even native English-speaking engineering students have a technical writing course as part of their study

☀ *a, an, the*

☀ *which/that*

☀ *such as/etc.*

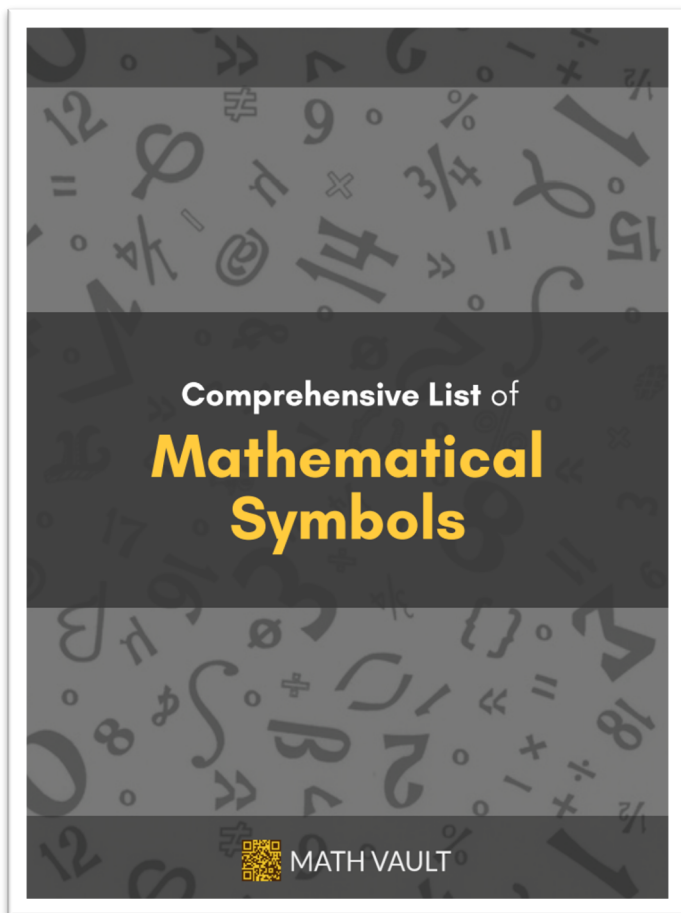
☀ *numbers and equations*

☀ ...

<http://papertalks.org/p/resources/Academic/EnglishWritingSkills/MostCommonEnglishWritingHabitsOfChinese.pdf>

英语写作规范（4）——规范的符号使用

Tips: (1) 阅读英文论文符号公式定义规范，别偷懒 😊 (2) 学习本领域经典论文!



Comprehensive List of Mathematical Symbols

For the corresponding web guides, see [Mathematical Symbols](#).

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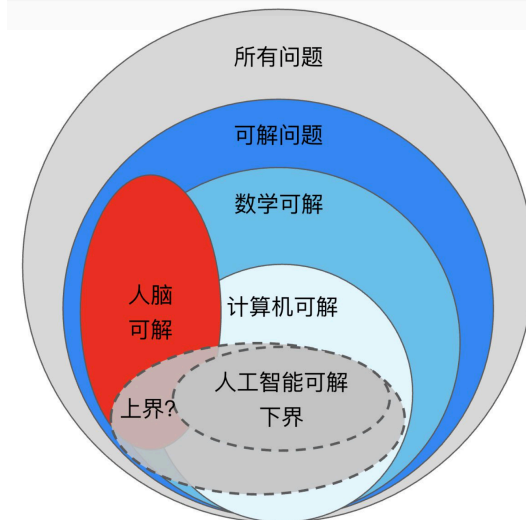
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Math Vault, <https://mathvault.ca/wp-content/uploads/Comprehensive-List-of-Mathematical-Symbols.pdf>

英语写作规范 (5) —— 标准的学术术语

人工智能技术发展迅速，学术术语内涵和外延不断变化！

学术论文需要精准把握学术术语边界（共识）！



CCF计算机术语工委及 CCFpedia

术语工委及术语平台介绍：

计算机术语审定委员会(Committee on Terminology)主要职能收集、翻译、释义、审定和推荐计算机新词，并在CCF平台上宣传推广。这对厘清学科体系，开展科学研究，并将科学和知识在全社会广泛传播，都具有十分重要的意义。

术语众包平台CCFpedia的建设和持续优化，可以有效推进中国计算机术语的收集、审定、规范和传播工作，同时又能起到各领域规范化标准定制的推广作用。

新版的CCFpedia计算机术语平台(<http://term.ccf.org.cn>)将术语的编辑运营与浏览使用进行了整合，摒弃老版中跨平台操作的繁琐步骤，在界面观性上进行了升级，让用户能够简单方便地查阅术语信息。同时，新版平台中引入知识图谱的方式对所有术语数据进行组织，通过图谱多层关联的形式升级了术语浏览的应用形态。



术语内涵及外延介绍

开篇导语：

本期发布术语热词：多模态表示学习(Multimodal Representation Learning)。在大数据环境和新基建背景下，人机交互过程中数据对象的日益丰富和变化，呈现多模态的特点。其中，“多模态”可以直观地理解为数据不同的多媒体形式，也可以作为一个更加细粒度的概念。多模态表示学习旨在通过利用不同多模态数据之间的互补性，剔除模态冗余性。从而将多模态数据语义表征为实值向量...

多模态表示学习(Multimodal Representation Learning)

作者：王萌（东南大学）

InfoBox：

中文名：多模态表示学习

外文名：Multimodal Representation Learning

学科：机器学习

实质：表示学习

简介：

在大数据环境和新基建背景下，人机交互过程中数据对象的日益丰富和变化，呈现多模态的特点。其中，“多模态”可以直观地理解为数据不同的多媒体形式，也可以作为一个更加细粒度的概念，关键在于为数据是否具有异构性，例如，对于某个歌手，互联网上可以找到他的照片和歌曲视频，同时也有相关的文本信息（百科，新闻等）以及具体的歌曲音频。这四种数据代表了图片、视频、文本、语音，可以被理解为该

参考文献/经典工作

参考文献：

- [1]Ngiam J, Khosla A, Kim M, Nam J, Lee H, Ng A Y. Multimodal deep learning [C]. Proceedings of the 28th International Conference on International Conference on Machine Learning, 2011: 689-696.
- [2]Wang D, Cui P, Ou M, Zhu W. Learning compact hash codes for multimodal representations using orthogonal deep structure [J]. IEEE Transactions on Multimedia, 2015, 17(9): 1404-1416.
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- [8]Guo H, Tang J, Zeng W, Zhao X, Liu L. Multi-modal Entity Alignment in Hyperbolic Space [J]. Neurocomputing, 2021, 461(1): 598-607.

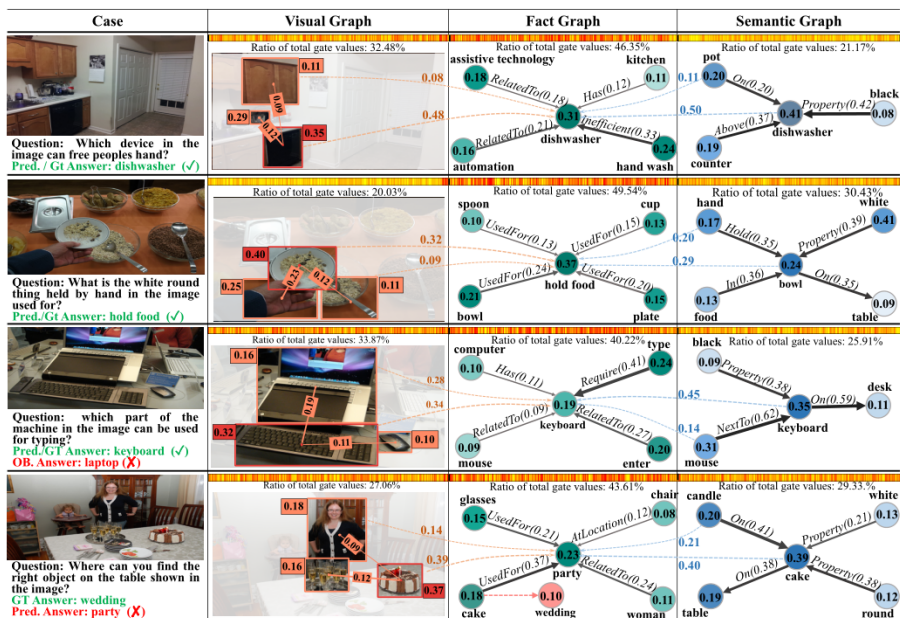
英语写作规范 (6) —— 客观的图表绘制



是否真实、准确地展示和反映实验结果？

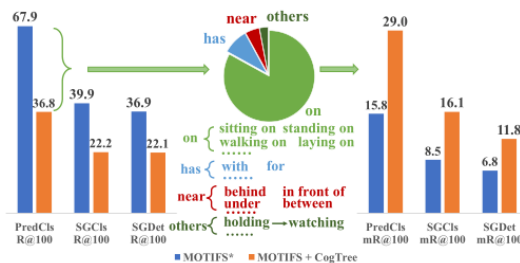
- ◆ 只展示自己方法的 *best case*? 其他方法的 *worst case*?
- ◆ 只有定性分析, 缺乏定量分析?
- ◆ 只有一次结果, 缺乏重复验证?

Tips: (1) 展示探究本质的全面结果 (2) 多视角量化分析结果提升原因 (3) 模型细节明确, 提供代码



Method	Overall Accuracy	
	top-1	top-3
LSTM-Question+Image+Pre-VQA	24.98	40.40
Hie-Question+Image+Pre-VQA	43.14	59.44
FVQA (top-3-QQmapping)	56.91	64.65
FVQA (Ensemble)	58.76	-
Straight to the Facts (STTF)	62.20	75.60
Reading Comprehension	62.96	70.08
Out of the Box (OB)	69.35	80.25
Human	77.99	-
Mucko	73.06	85.94

Table 1: State-of-the-art comparison on FVOA dataset.



Abstract

Knowledge-based visual question answering requires the ability of associating external knowledge for open-ended cross-modal scene understanding. One limitation of existing solutions is that they capture relevant knowledge from text-only knowledge bases, which merely contain facts expressed by first-order predicates or language descriptions while lacking complex but indispensable multimodal knowledge for visual understanding. How to construct vision-relevant and explainable multimodal knowledge for the VQA scenario has been less studied. In this paper, we propose MuKEA to represent multimodal knowledge by an explicit triplet to correlate visual objects and fact answers with implicit relations. To bridge the heterogeneous gap, we propose three objective losses to learn the triplet representations from complementary views: embedding structure, topological relation and semantic space. By adopting a pre-training and fine-tuning learning strategy, both basic and domain-specific multimodal knowledge are progressively accumulated for answer prediction. We outperform the state-of-the-art by 3.35% and 6.08% respectively on two challenging knowledge-required datasets: OK-VQA and KR-VQA. Experimental results prove the complementary benefits of the multimodal knowledge with existing knowledge bases and the advantages of our end-to-end framework over the existing pipeline methods. We make our code available at <https://anonymous.4open.science/r/MuKEA-87D7>.

英语写作规范（7）——正确的文献引用

终于！终于！写完啦！



Google Scholar 的格式就这样！
某篇A类论文的格式就这样！
信息就是找不着！



- [1] Khaled Al-Naami, Swarup Chandra, Ahmad Mustafa, and et al. 2016. Adaptive Encrypted Traffic Fingerprinting with Bi-Directional Dependence. In *Proceedings of the 32nd Annual Conference on Computer Security Applications (ACSAC '16)*. Association for Computing Machinery, 177–188.
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英语写作规范 (7) —— 正确的文献引用

Tips: (1) 遵守会议/期刊标准模板 (2) 快速、准确导入文献信息 (3) 认真、多次检查文献格式

期刊/会议标准

HOW TO USE THE IEEEtran BIB_T_EX STYLE

How to Use the IEEEtran BIB_T_EX Style

Michael Shell, Member, IEEE

Abstract—This article describes how to use the IEEEtran.bst BIB_T_EX style file to produce bibliographies that conform to the standards of the publications of the Institute of Electrical and Electronics Engineers (IEEE).

Index Terms—bibliography, BIB_T_EX, IEEE, L_AT_EX, paper, references, style, template, typesetting.

I. INTRODUCTION

THE IEEEtran.bst BIB_T_EX style file described in this document can be used with BIB_T_EX to produce L_AT_EX bibliographies of high quality that are suitable for use in IEEE publications. Other potential applications include thesis and academic work, especially when such work is in the area of electrical and/or computer engineering.

This document applies to version 1.12 and later of the IEEEtran BIB_T_EX style. Prior versions do not have all of the features described here. IEEEtran.bst will display the version number on the user's console during execution. The most recent version of this package can be obtained on CTAN [1] and may also be mirrored at various places within IEEE's website [2]. Additional support may be found at the IEEEtran homepage [3].

It is assumed that the reader has a basic understanding of the operation and use of BIB_T_EX. Documentation for the use of BIB_T_EX includes the user's guide [4] as well as supplementary information such as a comprehensive tutorial [5], FAQs [6], [7], and a guide using practical examples [8]. The large collection of sample bibliographies and string definitions at the T_EX User Group Bibliography Archive may also be of help [9]. General support for BIB_T_EX related questions can be obtained in the usenet newsgroup comp.text.tex.

Note that the references section of this document is used for two purposes: (1) to provide information where additional information can be found; and (2) to provide examples of references created using the IEEEtran BIB_T_EX style. The first few citations above fall into the first category, while the vast

may not carry the non-IEEE compliant (natbib compatible, etc.) variants. See the CTAN site [1] for the complete set of files.

IEEEtran_bst_HOWTO.pdf: This documentation.

IEEEtran.bst: The standard IEEEtran BIB_T_EX style file (unsorted, i.e., references will appear in the order in which they are cited). Recommended for work that is to be submitted to the IEEE.

IEEEtranS.bst: The IEEEtran BIB_T_EX style file, but with additional sorting code, similar to that of plainnat.bst, which sorts the entries based on the names of the authors, editors, organizations, etc. Some IEEE conferences/publications may allow/use sorted bibliographies, but the vast majority are unsorted.

IEEEtranSA.bst: Like IEEEtranS.bst, but with alphanumeric citation tags like alpha.bst. Not for normal IEEE use.

IEEEtranN.bst: Like IEEEtran.bst, but based on plainnat.bst and is compatible with Patrick W. Daly's natbib package [10]. Not for normal IEEE use.

IEEEtranSN.bst: Sorting version of IEEEtran.bst. Not for normal IEEE use.

IEEEexample.bib: A BIB_T_EX database that contains the references shown in the references section of this document. Users can copy the entries therein to serve as starting templates. The entries also have comments which may be of additional help.

IEEEfull.bib: A file that contains a comprehensive set of BIB_T_EX string definitions for the full names of IEEE journals and magazines. Because IEEE's bibliography style uses abbreviated journal names, this file's intended use is for specialized or non-IEEE related work.

IEEEabrv.bib: Same as above, but contains the abbreviated form of the journal and magazine names. Recommended for work that is to be submitted to the IEEE.

BIB_T_EX .bst files can be accessed systemwide when they are placed in the

DBLP参考文献信息

The screenshot shows the DBLP website interface. At the top, there's a search bar with the text "Vision Language author:Qi_Wu_0001:". Below the search bar, it says "Search dblp" and "powered by Complete Search, courtesy of Hannah Bast, University of Freiburg". There are navigation links for "Home" and "Publication search results". A list of search results is shown, with the first entry highlighted: "A Recurrent Vision-and-Language BERT for Navigation. CVPR 2021: 1643-1653". The entry lists authors: "Zizheng Pan, Yicong Hong, Ming-Hsuan Yang, Anton van den Hengel, Qi Wu:". Below the search results, there's a "BibTeX record" section showing the BibTeX entry for the paper, including fields like @inproceedings, author, title, booktitle, pages, publisher, year, url, timestamp, biburl, and bibsource.

一键完善论文参考文献信息:

<https://github.com/yuchenlin/rebiber>

将不完整的 arXiv 链接转换成最终发表的链接。

```
@article{lin2020birds,
  title={Birds have four legs?! NumerSense: Probing Numerical Commonsense Knowledge of Pre-trained Language Models},
  author={Lin, Bill Yuchen and Lee, Seyeon and Khanna, Rahul and Ren, Xiang},
  journal={arXiv preprint arXiv:2005.00683},
  year={2020}
}
```

An example normalized output entry with the official information:

```
@inproceedings{lin2020birds,
  title = "{B}irds have four legs?! (N)umer(S)ense: (P)robing (N)umerical (C)ommonsense (K)nowledge of Pre-trained Language Models",
  author = "Lin, Bill Yuchen and Lee, Seyeon and Khanna, Rahul and Ren, Xiang",
  booktitle = "Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing",
  month = nov,
  year = "2020",
  address = "Online",
  publisher = "Association for Computational Linguistics",
  url = "https://www.aclweb.org/anthology/2020.emnlp-main.557",
  doi = "10.18653/v1/2020.emnlp-main.557",
  pages = "6862–6868",
}
```

使用方法:

```
pip install -e git+https://github.com/yuchenlin/rebiber.git
rebiber -i /path/to/input.bib -o /path/to/output.bib
```

其中 input.bib 为待完善的参考文献, output.bib 为工具输出的补全的参考文献引用, 可直接放到 LaTeX 中。

英语写作规范（8）——坚守的学术道德

一篇抄十篇，CVPR Oral被指大量抄袭，大会最后一天曝光，合著者忙甩锅

机器之心 2022-06-25 12:57 发表于北京

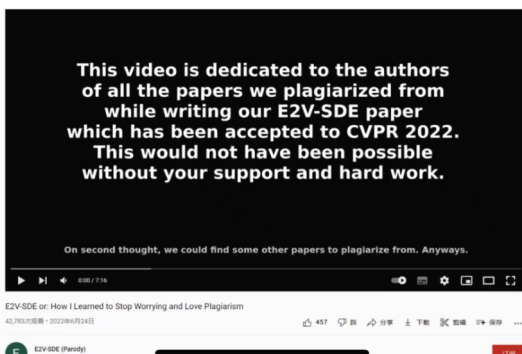
机器之心报道

机器之心编辑部

围观群众吐槽，作者忙着分锅。

人工智能顶会 CVPR 2022 的最后一天，一篇重点论文意外火了，但不是以正经的方式。

这天，YouTube 上出现了一个新的账号，它的目的非常单纯，就是为了指证一篇 CVPR 2022 Oral 论文涉嫌抄袭。



如何看待 ICCV21 接收的某港科大学生为一作的论文被指抄袭 ICML21 发表的论文？

正在发生

ICCV21接收论文m-RevNet: Deep Reversible Neural Networks with Momentum被指出与ICML21接收论文Momentum residual neural networks在核心思路、实验和图表上有多处雷同，疑似抄袭

ICML21论文作者的声明和详细的抄袭证据：

<https://michaelsdr.github.io/momentumnet/plagiarism/>

michaelsdr.github.io/momentumnet/plagiarism/

TOP大学派了

对自己一辈子声誉的影响

对合作者的影响

对所在学校/单位的影响

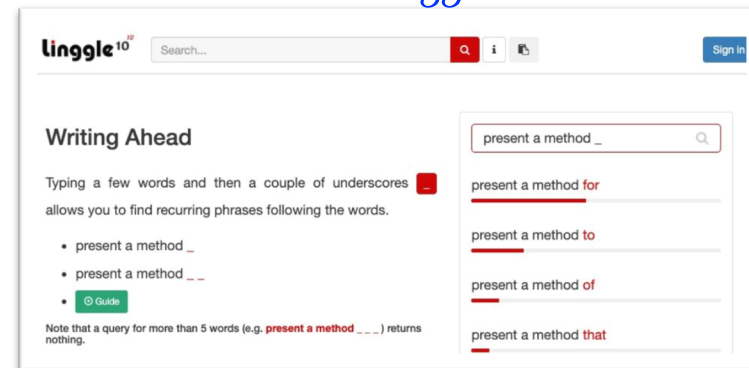
...

严守学术道德，
切记抄袭！

日常积累常见表达

- I. 研究概述常用句型
1. Previous research has shown that ...
2. In most studies of ... attention has been given to ...
3. The previous work on ... has indicated that it is ...
4. ... models have been proven useful in ...
5. There have been a few studies highlighting ...
6. Great concern have arisen ... due to the increasing number of ...
7. Most ... conduct ... testing on ... to monitor ... performance.
8. However, the problems exist in ...
9. However, there appears to have ...
10. Because of ... is impossible.
- II. 研究范围 常用句型
1. With the aim of ...
2. This paper is intended to ...
3. This paper aims at providing ...
4. The primary goal of this research is ...
5. The overall objective of his study is ...
6. The author(s) made this study in order to find ...

英语搭配工具 Linggle



欢迎大家在B站留言交流！

于静

邮箱: yujing02@iie.ac.cn

课程主页: <https://mmlab-iie.github.io/course/>

研究组主页: <https://mmlab-iie.github.io/>

知乎专栏: https://www.zhihu.com/column/c_1284803871596797952

课程主页



研究组主页



知乎专栏



中国科学院 信息工程研究所
INSTITUTE OF INFORMATION ENGINEERING, CAS



中国科学院大学
University of Chinese Academy of Sciences