

# 第二讲：英文学术论文之写作思路

## ——立意和标题

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

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# 从科学问题是否探究本质说起

CCF—A

**科学问题** 聚焦领域前沿，探索本质问题

**解决方法** 专注核心挑战，具普适性方法

Mucko: Multi-Layer Cross-Modal Knowledge Reasoning for Fact-based Visual Question Answering

Zihao Zhu<sup>1,2\*</sup>, Jing Yu<sup>1,2\*†</sup>, Yujing Wang<sup>3</sup>, Yajing Sun<sup>1,2</sup>, Yue Hu<sup>1,2</sup> and Qi Wu<sup>4</sup>

<sup>1</sup>Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China

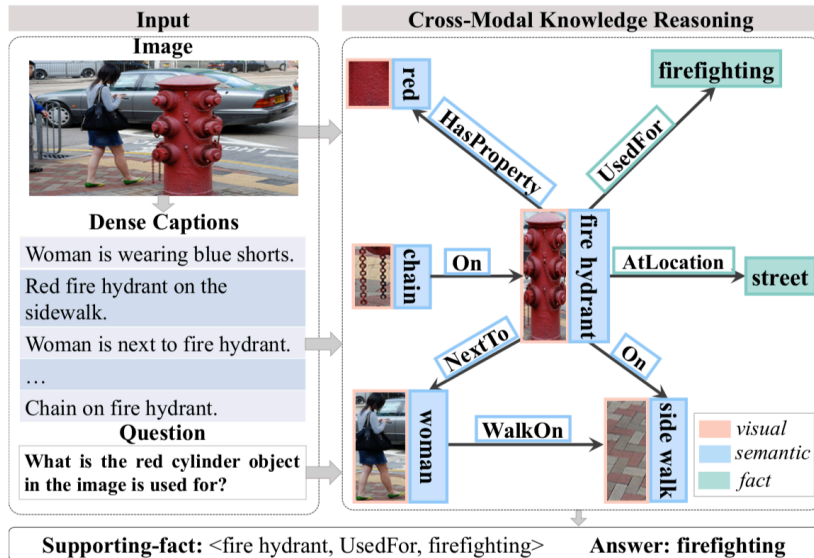
<sup>2</sup>School of Cyber Security, University of Chinese Academy of Sciences, Beijing, China

<sup>3</sup>Microsoft Research Asia, Beijing, China

<sup>4</sup>University of Adelaide, Australia

IJCAI 2020

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CCF—C

追逐领域热点，解决表面问题

盲从热门方法，模型增量修改

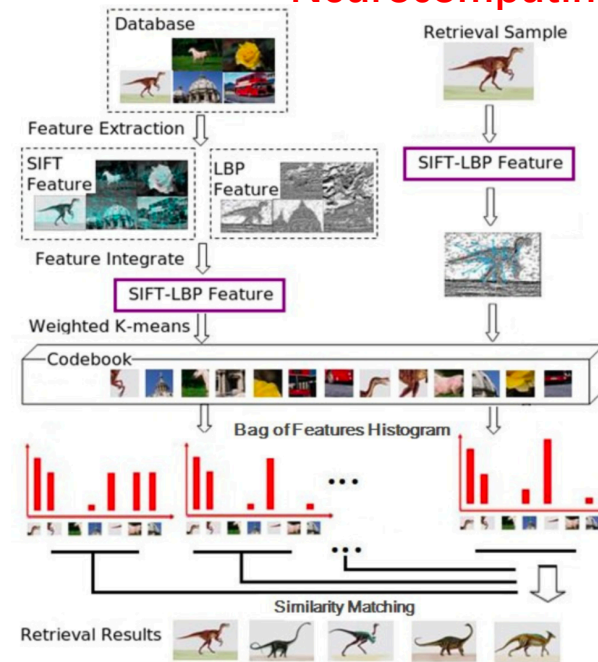
Feature integration analysis of bag-of-features model for image retrieval

Jing Yu<sup>a</sup>, Zengchang Qin<sup>a,\*</sup>, Tao Wan<sup>b</sup>, Xi Zhang<sup>a</sup>

<sup>a</sup>Intelligent Computing and Machine Learning Lab, School of Automation Science and Electrical Engineering, Beihang University, Beijing, China

<sup>b</sup>School of Medicine, Boston University, Boston, USA

Neurocomputing 2011



# 从科学问题是否探究本质说起

## CCF—A

- 问题-方法-实验，相互呼应

- 问题：有理有据，足够具体
- 方法：针对问题设计，每一步设计目标明确
- 实验：针对方法逐一证明，针对动机逐一分析

## CCF—C

- 问题-方法-实验，各为其说

- 问题：大家都在研究，所以我研究
- 方法：step1->step2->step3
- 实验：达到了SOTA，缺乏分析

# 一篇论文的组成

- ◆ **标题**：核心问题与创新点的高度凝练
- ◆ **摘要**：动机、亮点与效果的概要介绍
- ◆ **引言**：动机、现状、方法和贡献介绍
- ◆ **相关工作**：引言现有工作的详细介绍
- ◆ **研究方法**：引言模型部分的详细介绍
- ◆ **实验分析**：引言模型效果的详细介绍
- ◆ **总结展望**：经过实验验证后给的结论
- ◆ **致谢**：对作者以外人员/机构的感谢
- ◆ **参考文献**：正文出现的按照格式引用

# 一篇论文的组成——标题

## 基本要求（不超过15个单词）

☀ 英文形式规范

☀ 语言精炼简洁

☀ 范围大小适当

## 好标题

☀ 反应核心问题

☀ 突出技术创新

☀ 保护知识产权

☀ 易于记忆传播

# 一篇论文的组成——标题 (Bad Cases)

**From shallow to deeper:** compositional reasoning over graphs for visual question answering

太宽泛!

PERT: **adaPtive** Evidence-driven Reasoning **neTwork** for Machine Reading Comprehension with Unanswerable Questions

不规范!

**Understanding like humans:** multimodal representation for the visual information in visual dialog

没依据!

**Graph Neural Networks for Image-Text Matching**

没创新!

A **Plug-and-Play novel Tree Loss Function** for Unbiased Scene Graph Generation based on **Upgraded Transformer framework**

太冗余!

**KBGN:** Knowledge-Bridge Graph Network for Adaptive Vision-Text Reasoning in Visual Dialogue.

难记忆!

# 一篇论文的组成——标题 (My Own)

**MuKEA:** Multimodal Knowledge Extraction and Accumulation for Knowledge-based Visual Question Answering (CVPR 2022)

**ET-BERT:** A Contextualized Datagram Representation with Pre-training Transformers for Encrypted Traffic Classification (WWW 2022)

**CogTree:** Cognition Tree Loss for Unbiased Scene Graph Generation (IJCAI 2021)

**DualDV:** An Adaptive Dual Encoding Model for Visual Dialogue (AAAI 2020)

**Mucko:** Multi-Layer Cross-Modal Knowledge Reasoning for Fact-based Visual Question Answering (IJCAI 2020)

**DAM:** Deliberation, Abandon and Memory Networks for Generating Detailed and Non-repetitive Responses in Visual Dialogue (IJCAI 2020)

# 一篇论文的组成——标题 (CV & NLP & ML)

Zero-Shot Text-to-Image Generation  
(DALL·E, arxiv 2021)

Swin Transformer: Hierarchical Vision Transformer using Shifted Windows (ICCV 2021)

Sketch, Ground, and Refine: Top-Down Dense Video Captioning (CVPR 2021)

BERT: Pre-training of Deep Bidirectional Transformers for Language Understanding  
(NAACL 2019)

Knowledgeable Prompt-tuning : Incorporating Knowledge into Prompt Verbalizer for  
Text Classification ( ACL 2022)

Semi-Supervised Classification with Graph Convolutional Networks ( ICLR 2017)

A Simple Framework for Contrastive Learning of Visual Representations  
(SimCLR, 2020 ICML)



# 欢迎大家在B站、知乎专栏、邮件留言交流！

于静

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知乎专栏: [https://www.zhihu.com/column/c\\_1284803871596797952](https://www.zhihu.com/column/c_1284803871596797952)

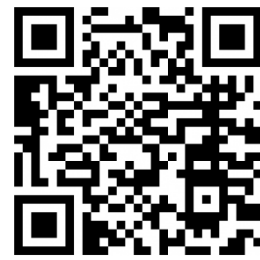
课程主页



研究组主页



知乎专栏



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