

A Guide of Term Paper

Machine Learning Course 2024

Titles

- Type 1: You can prepare your own topic title upon my permission.
- Type 2: You can also think a title related to your course project, but the methodology novelty of your paper should be different from that of your course project. You need to specify the difference between your method and the method of your project in the introduction section of your paper. This way is recommended.
- Type 3: Or you can choose a topic from the topics below for your reference.
 - a) Zero-shot object classification
 - Design a zero-shot learning method to classify objects
 - b) A novel regression method for house/stock price prediction
 - Design a novel regression method
 - c) A novel spectral clustering algorithm for graph clustering
 - Design a novel spectral clustering algorithm

Requirements

1. Some paper samples for your reference. You can learn the paper structure outline, and paragraph layout from these paper samples.
 - a) [FREE: Feature Refinement for Generalized Zero-Shot Learning](#)
 - b) [Location-Centered House Price Prediction: A Multi-Task Learning Approach](#)
 - c) [Fast and Simple Spectral Clustering in Theory and Practice](#)
2. Using the online latex editor [Overleaf](#) for paper writing. Use the latex paper [template](#) to write your paper. Submit a PDF version paper in English with 4-6 pages, 11 font size, two-column layout. **The paper can be titled as “Student ID + Your Name”.**
3. **You must ensure that the contents of the paper haven’t been submitted to any other courses or published to any conferences or journals.**

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Step 1: Choose a topic title. You can choose a title from your project at hand, if any, or choose one from the reference titles given above.

Step 2: Do literature review for your topic. Summarize the development history of your topic, summarize state-of-the-art (SOTA) methods. Get familiar with the existing methods. Summarize the shortcomings of the existing methods.

Step 3: Think and find a research question based on their shortcomings. Write down the research question using one or two paragraphs.

Step 4: Design a machine learning methodology to tackle the research question. Logically and scientifically.

Step 5: Design experiments to implement your method. Conduct experiments to clarify the effectiveness of your method. Conduct comparison experiments to compare your method with the SOTA methods. Conduct ablation experiments to highlight the effectiveness of components of your method.

Step 6: Report your experimental results. Do the visualization. Write the paper, refer to the formats of the example papers for your reference.

Step 7: Check and revise the paper writing.

附录：

抄袭，也称为剽窃，是指未经授权地复制或模仿他人的语言、思想、表达或作品，并将其当作自己原创的内容来使用，而没有适当地引用或者承认原作者的贡献。这是一种不诚实的行为，通常在学术界、艺术界和写作领域中被认为是严重的违规行为。抄袭可以采取多种形式，包括但不限于：

1. 文字抄袭：直接复制他人的文字，不加修改地插入到自己的作品中。
2. 想法抄袭：盗用他人的创意、概念或研究成果，而没有给出适当的归属。
3. 自我抄袭：将自己之前发表过的内容重新发表，而没有声明这是重复使用的内容。
4. 混合抄袭：结合多个来源的内容，未经改编直接使用，且不提供适当引用。
5. 不完全引用：虽然提供了引用，但未能准确地标明被引用部分，使读者无法明确区分原创与引用内容。
6. 翻译抄袭：将他人作品翻译成另一种语言并声称为自己的作品，而没有提及原作者。

在学术界，剽窃是不容忍的行为，因为它违反了学术诚信的原则。学术机构、出版社和专业组织通常都有严格的剽窃政策，并采取各种措施（如使用抄袭检测软件）来防止和识别剽窃行为。被发现抄袭可能导致论文撤稿、学位取消、职业声誉受损等严重后果。