**Inventory of supplemental materials**

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| --- | --- | --- | --- |
| **File name** | **Specific content** | | **Corresponding parts in the manuscript** |
| Codes | Codes for evaluating LLMs' performance | Evaluate LLMs’ article-level identification performance for each case | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Evaluate LLMs’ article-level identification performance in 8 case types | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Evaluate LLMs’ act-level identification performance | Section 4.1, Figure S1 |
| Evaluate LLMs’ total article-level identification performance | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2, Section 4.3 (Fig.7) |
| Codes for running act-level identification LLMs | Two-stage\_act-level\_Baichuan2-7B-Chat | Section 4.1, Figure S1 |
| Two-stage\_act-level\_Baichuan2-13B-Chat | Section 4.1, Figure S2 |
| Two-stage\_act-level\_ChatGLM3-6B | Section 4.1, Figure S3 |
| Two-stage\_act-level\_Chinese-LLaMA2-7B | Section 4.1, Figure S4 |
| Two-stage\_act-level\_Deepspeek-LLM-7B-Chat | Section 4.1, Figure S5 |
| Two-stage\_act-level\_Qwen1.5-1.8B-Chat | Section 4.1, Figure S6 |
| Two-stage\_act-level\_Qwen1.5-7B-Chat | Section 4.1, Figure S7 |
| Two-stage\_act-level\_Qwen1.5-14B-Chat | Section 4.1, Figure S8 |
| Codes for running one-stage LLMs | One-stage\_Baichuan2-7B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| One-stage\_Baichuan2-13B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| One-stage\_ChatGLM3-6B | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| One-stage\_Chinese-LLaMA-7B | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| One-stage\_Deepspeek-LLM-7B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| One-stage\_Qwen1.5-1.8B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| One-stage\_Qwen1.5-7B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| One-stage\_Qwen1.5-14B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Codes for running original LLMs | Original\_Baichuan2-7B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Original\_Baichuan2-13B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Original\_ChatGLM3-6B | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Original\_Chinese-LLaMA-7B | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Original\_Deepspeek-LLM-7B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Original\_Qwen1.5-1.8B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Original\_Qwen1.5-7B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Original\_Qwen1.5-14B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Codes for running two-stage LLMs | Two-stage\_article-level\_Baichuan2-7B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Two-stage\_article-level\_Baichuan2-13B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Two-stage\_article-level\_ChatGLM3-6B | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Two-stage\_article-level\_Chinese-LLaMA2-7B | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Two-stage\_article-level\_Deepspeek-LLM-7B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Two-stage\_article-level\_Qwen1.5-1.8B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Two-stage\_article-level\_Qwen1.5-7B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Two-stage\_article-level\_Qwen1.5-14B-Chat | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Fig. S1 | The performance of the act-level identification models | | Section 4.1 |
| Table S1 | The construction case dataset | | Section 4.1 |
| Table S2 | The estimating cost of closed-source LLMs | | Section 3.2 (Table 3) |
| Table S3 | The results of comparisons and Wilcoxon signed-rank test | | Section 3.2 |
| Table S4 | The answers to the act-level identification in test dataset | | Section 3.3, Section 4.1(Fig.5 and Fig.6), Section 4.2 |
| Table S5 | The answers to the article-level identification in test dataset | | Section 4.1, Fig. S1 |
| Table S6 | The answers from ChatLaw to the article-level identification in test dataset | | Section 4.3 (Fig. 7) |
| Table S7 | The answers from ChatGPT 4 and to the article-level identification in test dataset | | Section 4.3 (Fig. 7) |

Due to too many materials, all supplemental materials are provided in GitHub repository (<https://github.com/Anyone0008/Smart-case-relevant-law-identification-for-construction-disputes>). Besides the GitHub repository, the all dataset is also shared in Google Drive (<https://drive.google.com/drive/folders/1T58vR0lq8g_RBs9Be_7lpeJ48dSLRPU_?usp=drive_link>).