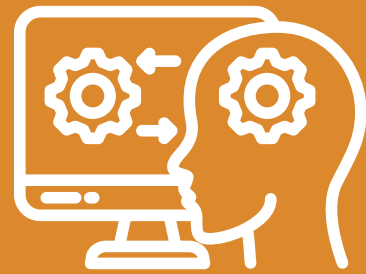


# Enhancing Consistency Through Prompt-Tuning for **Style Guide Adaptation**

By Zidian(Rosetta) Guo, Ming Qian, 2024

# Research Background



## Main difficulties in crafting prompts as style guides

- Complexity of Language Rules
- Amount of tokens
- Limitation of LLM's Implementation
- Scalability Issues



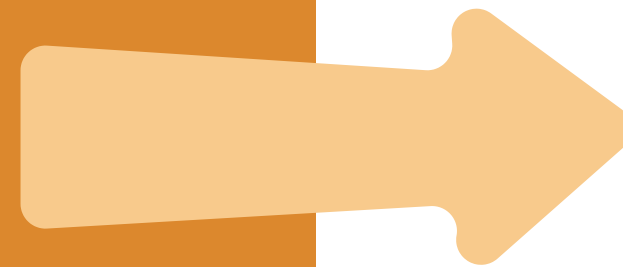
## Differences in info delivery for human v.s. LLM

- File Format
- Learning and Adaptation Pattern
  - Contextual Understanding
  - Rule Adherence

# Style Guide for Linguists

- Attachment
- Flexible instructions
- Table format
- Illustrative examples as references


Mechanical Guidelines	
PROPER NOUN	Handle document, job, and organization titles as follows: <a href="#">Select from dropdown menu...</a>
ACRONYMS:	As a general rule, please handle acronyms as follows: Use the official acronym in the target if one exists following the manner of presentation of the acronym of the source (i.e. in running text, in parentheses). If no official acronym exists, please use the following conventions: <a href="#">Select from dropdown menu...</a>
ACCENTS & DIA	Handle accents and diacritics as follows: <a href="#">Select from dropdown menu...</a>
PUNCTUATION:	
ADDRESSES:	As a general rule, please leave addresses as is in the target.
PHONE NUMBERS:	For phone numbers, please add the international dialing code +1, unless a toll-free number is listed. For toll-free numbers (800, 888), leave as is in target without international dialing code. (Adding an international dialing code prior to a toll-free number implies that customer service is available in the language of the target locale.)
DATES:	Format dates as follows: <a href="#">Select punctuation to use for date...</a> Use dashes. MM-DD-YYYY or YYYY-MM-DD Use slashes. MM/DD/YYYY or YYYY/MM/DD Use comma. Month day, year <a href="#">Select the convention for expressing the day...</a>
MEASUREMENTS:	Follow these conventions for measurements: <a href="#">Select from dropdown menu...</a>
CURRENCIES:	
Other instructions?	



# Style Guide for LLMs

- Prompt
- Prescriptive rules
- Text format
- Illustrative examples as training data

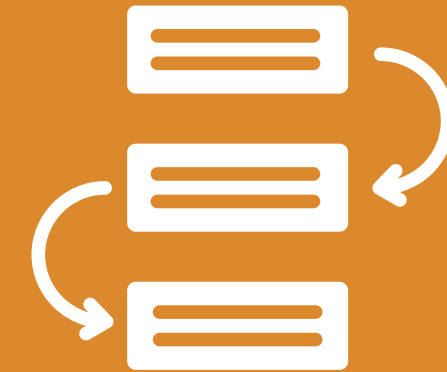
Based on the language features of the example, select relevant style guide items among the following 9 elements. Not that if an element is not manifested or not mentioned in the example, do not include it in the extracted style guide — that is, your extracted style guide does not need to contain all the 9 elements below. Respond directly with a list of style guides:

1. Domains:
  - General
  - Healthcare/Medicine
  - Technology
  - Finance
  - Legal
  - Social Science
  - Gaming
  - Entertainment
  - Marketing and Advertising
  - Government and Public Sector
2. Target audiences:
  - Subject matter experts
  - Public
  - Kids
  - Other
3. Literal or Transcreation:
  - Literal
  - Transcreation
4. Register:
  - Use plain language.
  - Use academic/scientific language.
5. Acronyms   
English acronym followed by a translation in target languages in

# Prompt Engineering V.S. Prompt Tuning



- Crafting specific input instructions
- Widely used for one-off tasks
- Relies on the skill of the user to manually adjust and refine prompts, which can be time-consuming and may not always produce consistent results across different tasks.



- Systematically adjusted prompts over time
- Leveraging an initial prompt to create an extended prompt
- Used for tasks that require consistent results across multiple instances
- More suitable for dynamic problems, where the context or requirements may change over time.

# Research Scope

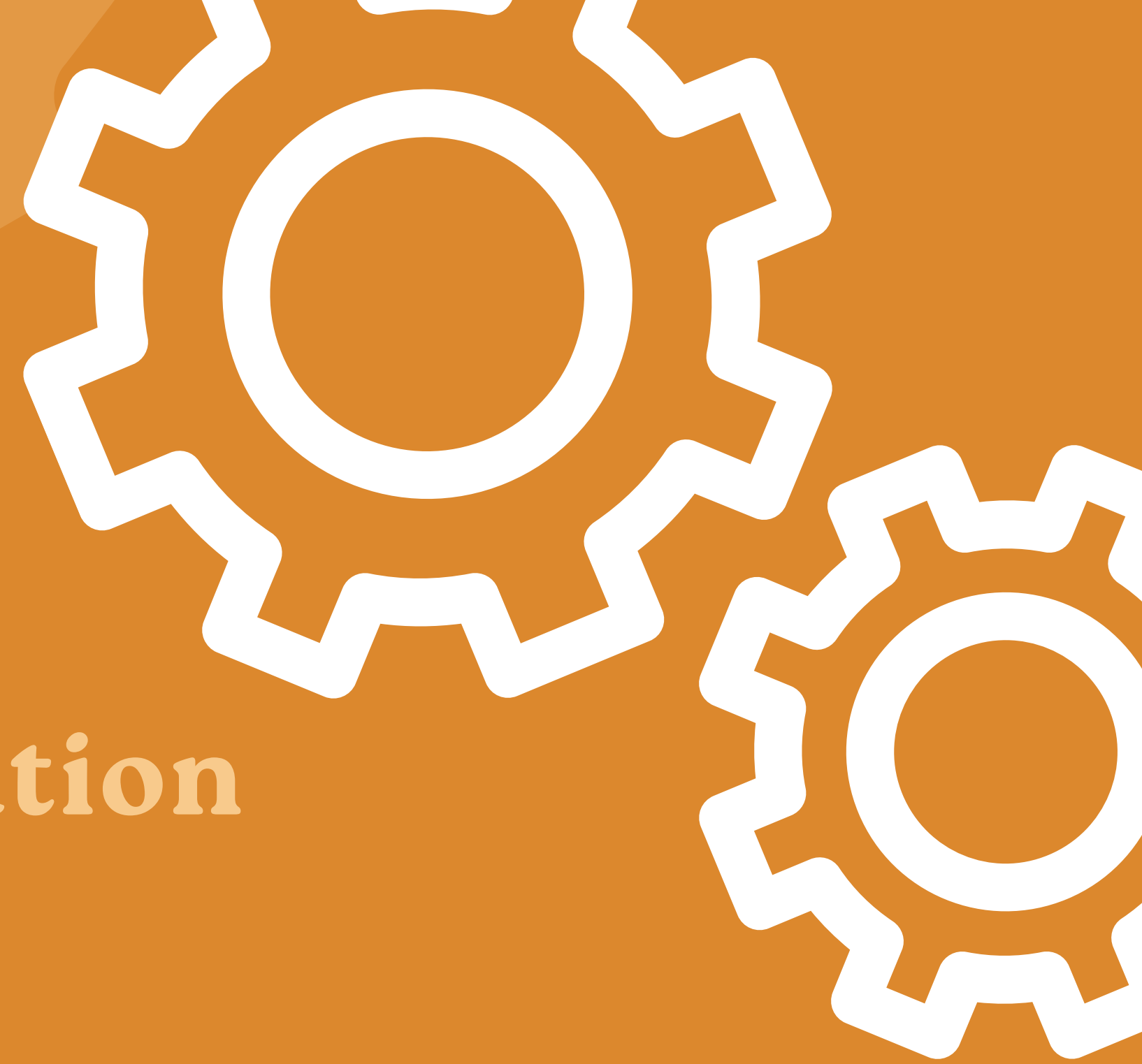
## Project Focus:

- Individual User Experience:
  - This research focuses on the application of Prompt Tuning (PT) within the UI of ChatGPT rather than through the API.
  - The goal is to explore how individual linguists can leverage PT directly to enhance style guide adaptation.

## Models Tested:

- ChatGPT-3.5, -4, and -4 omni

**The**  
**PT - Style Guide Adaptation**  
**Process**



# Basic Process

**Prompt:**  
**Rule**

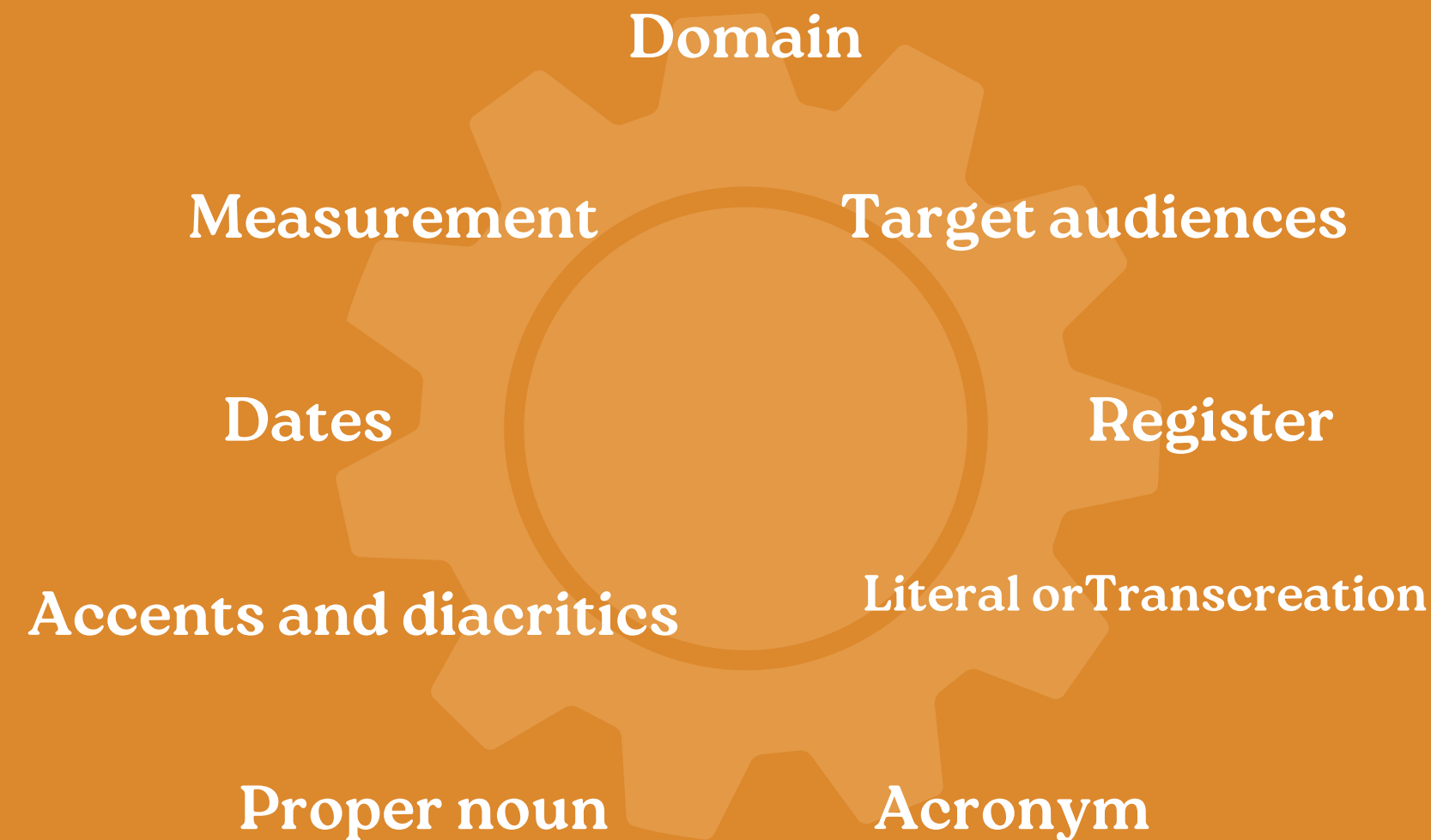
**Output:**  
**Style Guide  
by LLM**

**Prompt:**  
**Task**

**Output:**  
**Style Guide  
Implemented**

# Rule for Prompt Tuning

1. Select from 9 elements



2. Remove irrelevant element(s)



**Based on the language features of the example, select relevant style guide items among the following 9 elements. Note that if an element is not manifested or not mentioned in the example, do not include it in the extracted style guide — that is, only contain necessary elements in your extracted style guide. Respond directly with a list of style guides:**

**1. Domains:**

- General
- Healthcare/Medicine
- Technology
- Finance
- Legal
- Social Science
- Gaming
- Entertainment
- Marketing and Advertising
- Government and Public Sector

**2. Target audiences:**

- Subject matter experts
- Public
- Kids
- Other

**3. Literal or Transcreation:**

- Literal
- Transcreation

**4. Register:**

- Use plain language.
- Use academic/scientific language.

**5. Acronyms**

- English acronym followed by a translation in target languages in parentheses for the first instance of an acronym in the section. For all subsequent instances of an acronym in the section use the English acronym only.
- e.g. ISO (International Organization for Standardization)
- Translate the acronym into full words and indicate the English acronym in parentheses for the first instance of an acronym in the section. For all subsequent instances of an acronym in the section use the English acronym only.
- e.g. International Organization for Standardization (ISO)

**6. Proper nouns**

- Capitalize all major words in the title.
- e.g. International Organization for Standardization
- Capitalize only the first word in the title.
- e.g. International organization for standardization

**7. Accents & Diacritics:**

- Use accents and diacritics on CAPITAL letters.
- Do not use accents and diacritics on CAPITAL letters.

**8. DATES (Remember to manage the order)**

- Use dashes: MM-DD-YYYY
- Use slashes: MM/DD/YYYY
- Use comma: Month, day, year

**9. MEASUREMENTS**

- Convert All Measurements to Local Units
- Keep Original Measurements
- Provide Dual Measurements

# Style Guide Extracted



## 1. Domains:

- Healthcare/Medicine
- Technology

## 2. Target audiences:

- Subject matter experts
- Public

## 3. Literal or Transcreation:

- Literal

## 4. Register:

- Use academic/scientific language.

## 5. Acronyms

- Translate the acronym into full words and indicate the English acronym in parentheses for the first instance of an acronym in the section. For all subsequent instances of an acronym in the section use the English acronym only.
- e.g. International Organization for Standardization (ISO)

## 6. Proper nouns

- Capitalize all major words in the title.
- e.g. International Organization for Standardization

## 7. DATES

- Use comma.
- Month, day, year



# Style Guide Implemented

I am going to assign you a translation/LQA task from ZH to EN, adhering to the extracted style guides above. Begin your response directly with the information requested.

硝酸甘油是一种血管舒张药物, 在临床应用于心绞痛、劳力型心力衰竭和急性心肌梗死等疾病的治疗已达百余年。

硝酸甘油主要通过扩张外周血管降低心脏前后负荷, 扩张冠状动脉减少心肌耗氧而发挥作用。

然而临床中发现, 硝酸甘油长期应用会导致其扩血管作用减弱甚至消失, 即形成所谓的硝酸甘油耐受。

关于耐受的形成功能机制, 近年来国内外在硝酸甘油生物转化、活性氧作用及环鸟苷酸-环鸟苷酸依赖的蛋白激酶信号通路障碍等方面有很多重要认识, 发现硝酸甘油长期应用可以影响其生物活化途径的各个环节, 以及引起血管内皮功能障碍, 从而导致硝酸甘油耐受的形成。



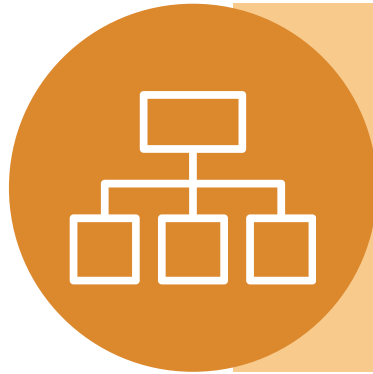
## **Nitroglycerin as a Vasodilator Drug: Over a Century of Clinical Use and Tolerance Issues**

Nitroglycerin is a vasodilator drug that has been used clinically for over a century to treat conditions such as angina, effort-induced heart failure, and acute myocardial infarction. The primary mechanism of nitroglycerin involves dilating peripheral blood vessels to reduce both preload and afterload on the heart, and dilating coronary arteries to decrease myocardial oxygen consumption.

However, it has been observed in clinical settings that long-term use of nitroglycerin can lead to a reduction or even disappearance of its vasodilatory effects, a phenomenon known as nitroglycerin tolerance. Recent domestic and international research has significantly advanced our understanding of the mechanisms behind this tolerance. Studies have highlighted the role of nitroglycerin's biotransformation, reactive oxygen species, and disruptions in the cyclic guanosine monophosphate (cGMP)-dependent protein kinase signaling pathway. It has been found that prolonged use of nitroglycerin can affect various aspects of its bioactivation pathways, as well as cause endothelial dysfunction, leading to the development of nitroglycerin tolerance.



# Looking Forward



Hierarchy in Prompt Tuning



Locale Variations



Performance Evaluation of Prompt Tuning



Rule-Based Structures



# THANK YOU!

**Enhancing Consistency Through Prompt-Tuning  
for Style Guide Adaptation**

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