EtiCor: Corpus for Analyzing LLMs for Etiquettes

Exploration Lab EL अन्वेषण प्रयोगशाला

IIT KANPUR Indian Institute of Technology, Kanpur
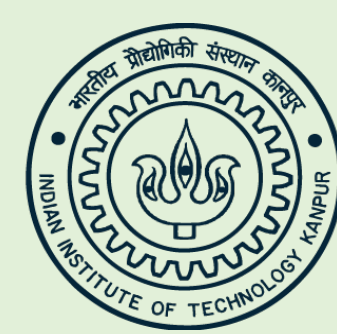
Ashutosh Dwivedi **Pradhyumna Lavania** **Ashutosh Modi**

EMNLP 2023

Motivation and Contributions

- Etiquettes define a system of rules and conventions that regulate social and professional behavior. Consequently, Etiquettes play a crucial role in shaping social interactions and maintaining harmonious relationships among people.
- However, etiquettes can vary significantly across different regions.
- Given the proliferation of LLMs into various technologies (e.g., search), it is not clear if LLMs are sensitive to culture-specific etiquettes?
- To address this, we introduce **EtiCor**, a corpus of etiquette-related texts spanning five distinct regions across the globe. The corpus is created by scrapping relevant etiquette-specific information from reliable sources. This corpus serves as a valuable resource for evaluating the ability of LLMs to understand region-specific etiquettes.
- We propose the task of **Etiquette Sensitivity:** given a statement about etiquette, the task is to predict whether the statement is appropriate for a region.
- We experiment with SoTA LLMs (Delphi, Falcon-40B, GPT-3.5) in a zero-shot setting.
- Initial findings reveal that LLMs exhibit varying degrees of proficiency in handling etiquettes from different regions. Notably, LLMs demonstrate a limited ability to comprehend etiquettes from non-Western regions.

Etiquettes Corpus

North America and Europe (NE)
India (IN)
Middle East and Africa (MEA)
Latin America (LA)
East Asia (EA)

Region	# Positive Labels (+1)	# Negative Labels (-1)	Total
EA	4218	3214	7432
MEA	5733	4298	10031
IN	2356	2200	4556
LA	4544	3628	8172
NE	4230	1926	6156
Total	21081	15266	36347

❄️Travel 🔺Business 🟨Visits ➕Dining

12.9%
30.1%
27.0%
30.0%
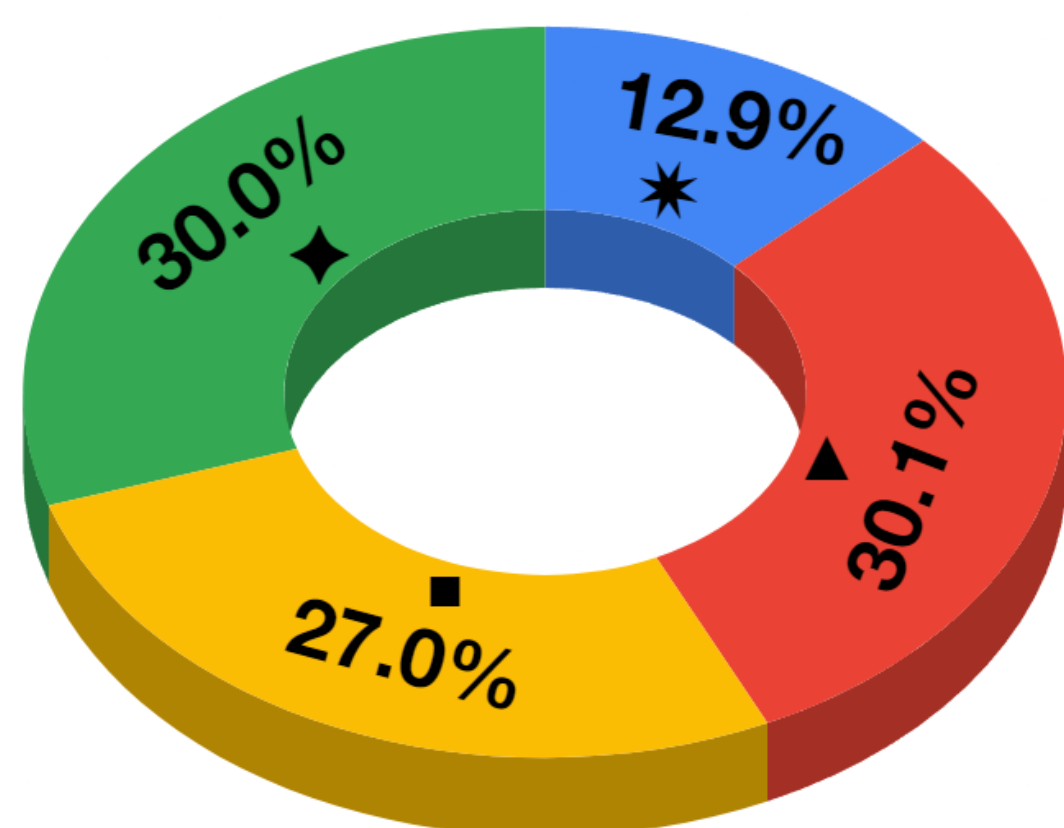
EtiCor Examples

| Region	Sentence	Label
EA	Pointing a chopstick towards someone while having dinner	-1
EA	Extended office hours are widely accepted throughout Japan.	1
IN	Eating with bare hands is common practice here	1
IN	In rural India, it is a common practice to greet guests and invite them to sit on the floor	1
IN	In India, it is a common practice to touch feet of elders to seek blessings.	1
MEA	Use of Perfumes Fragrances play a crucial part in Kuwaiti society It's not uncommon to be offered perfume at social gatherings	1
MEA	Ethiopians shake hands slowly when greeting each other	-1
NE	In Hungary: Close friends kiss one another lightly on both cheeks, starting with the left cheek.	1
LA	Children in Colombia are expected to be respectful and not overly conversational when speaking with adults	-1
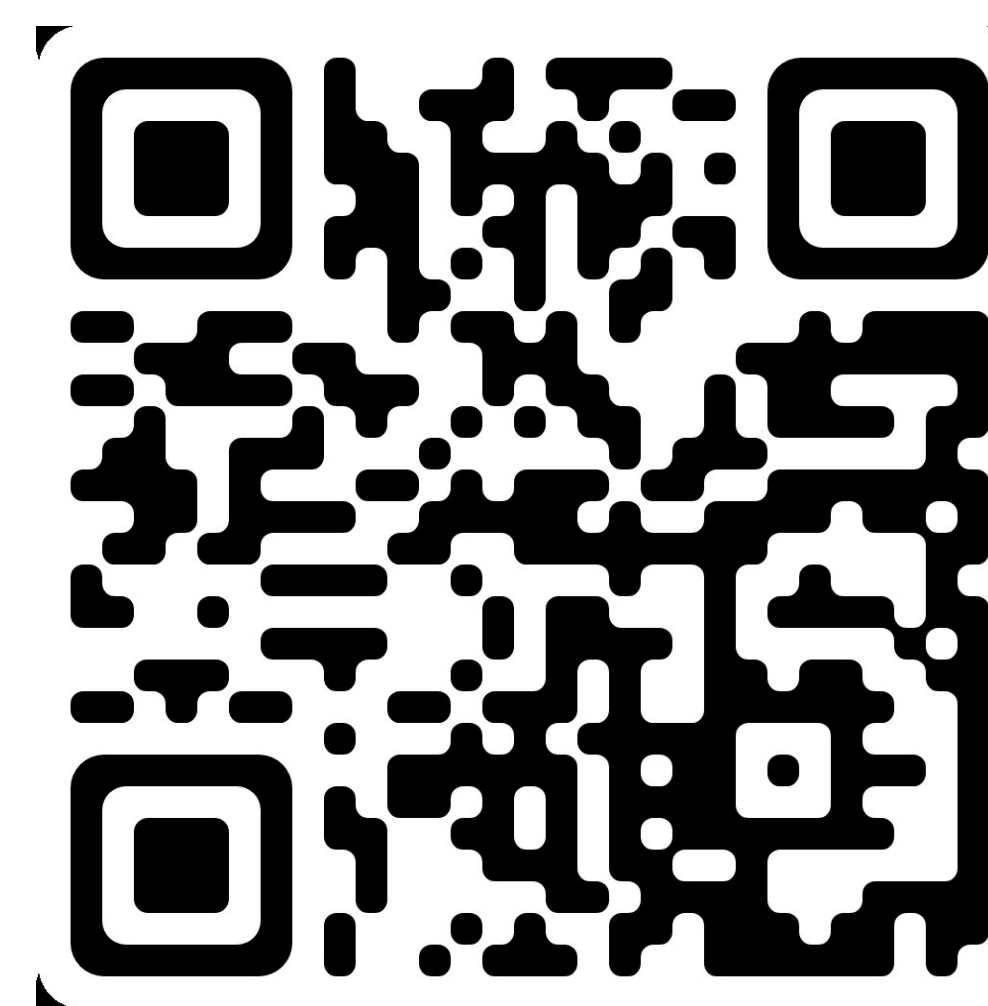
Zero Shot Results

Region	Delphi		Falcon-40B		GPT 3.5	
	F1 score	# of Abstentions	F1 score	# of Abstentions	F1 score	# of Abstentions
EA	0.69	809	0.70	480	0.67	32
IN	0.77	154	0.73	806	0.64	14
MEA	0.71	1149	0.73	123	0.68	46
NE	0.85	220	0.78	453	0.75	36
LA	0.71	1654	0.61	731	0.67	88
Overall	0.74	3986	0.71	2593	0.68	216

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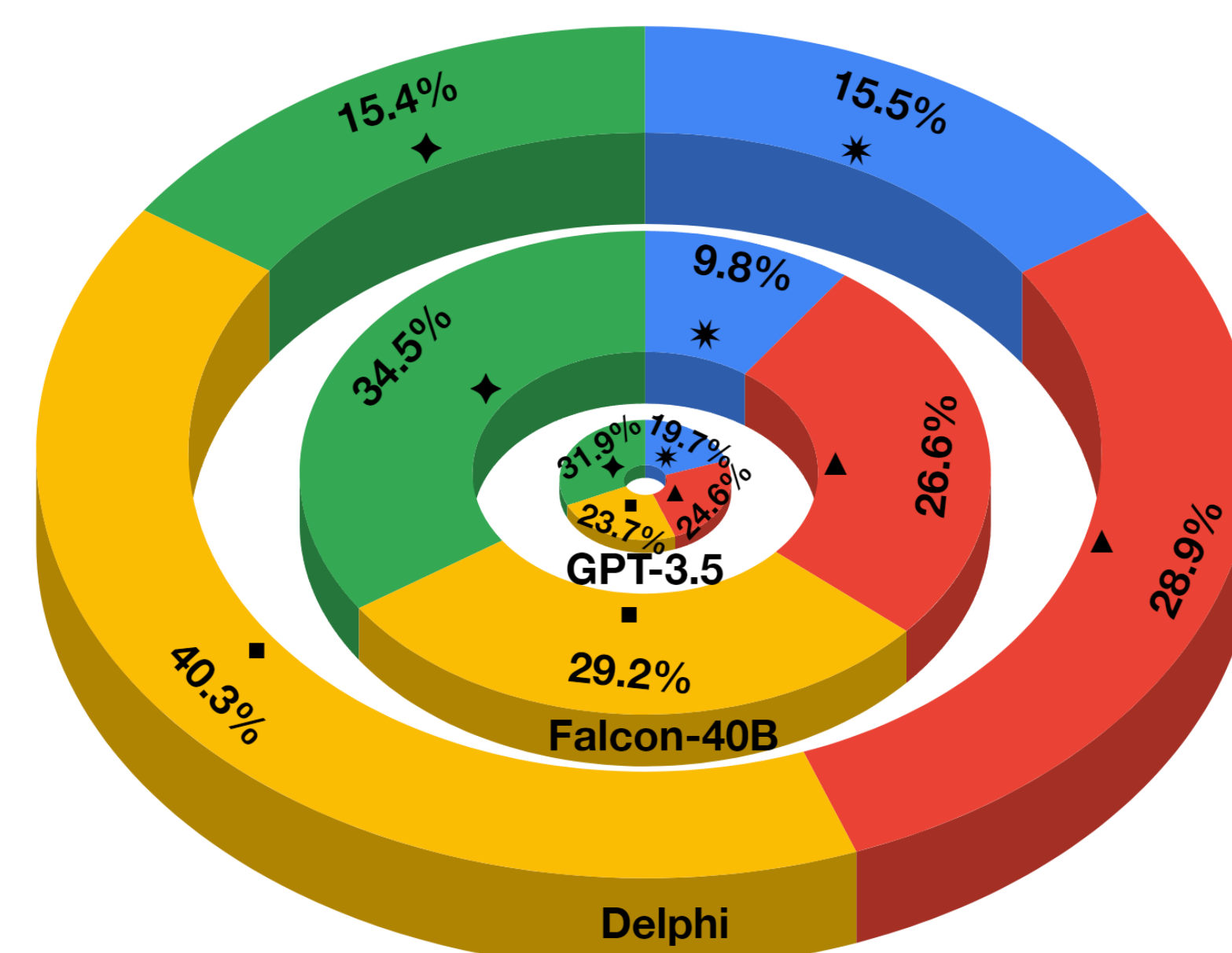
Zero-Shot Wrong Predictions Sub-Category Distribution

GPT-3.5
Falcon-40B
Delphi

15.4% 15.5%
9.8%
34.5%
26.6%
28.9%
40.3%
29.2%
23.7%

Supervised Fine Tuning

- We also fine-tune BERT model to evaluate performance of a supervised model.
- A separate model is trained for each region.
- 5-fold cross-validation is performed.
- Supervised BERT model has high performance for all regions.

Region	Test Accuracy	Test F1
EA	0.872 ± 0.034	0.913 ± 0.038
IN	0.878 ± 0.028	0.882 ± 0.028
MEA	0.938 ± 0.027	0.946 ± 0.023
NE	0.919 ± 0.032	0.934 ± 0.032
LA	0.869 ± 0.015	0.913 ± 0.023
Overall (Weighted)	0.899	0.922
Regions Combined	0.871 ± 0.015	0.902 ± 0.021

Conclusion

- The performance of LLMs on the task of Etiquette Sensitivity indicate a significant gap in knowledge and understanding of LLMs.
- LLMs show limited knowledge of non-western etiquettes.
- One possible way to develop culturally sensitive LLMs is via region-specific mixture of experts Adapters (Wang, et al., 2022)