

IISERB Brains at SemEval-2022 Task 6: A Deep-learning Framework to Identify Intended Sarcasm in English

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Objective

For the given English dataset,

- **Sub-task A:** Determine whether or not a given text is sarcastic.
- **Sub-task B:** Determine which ironic speech category the sarcastic text belongs to.
- **Sub-task C:** In a pair of texts, determine the sarcastic one.

Data

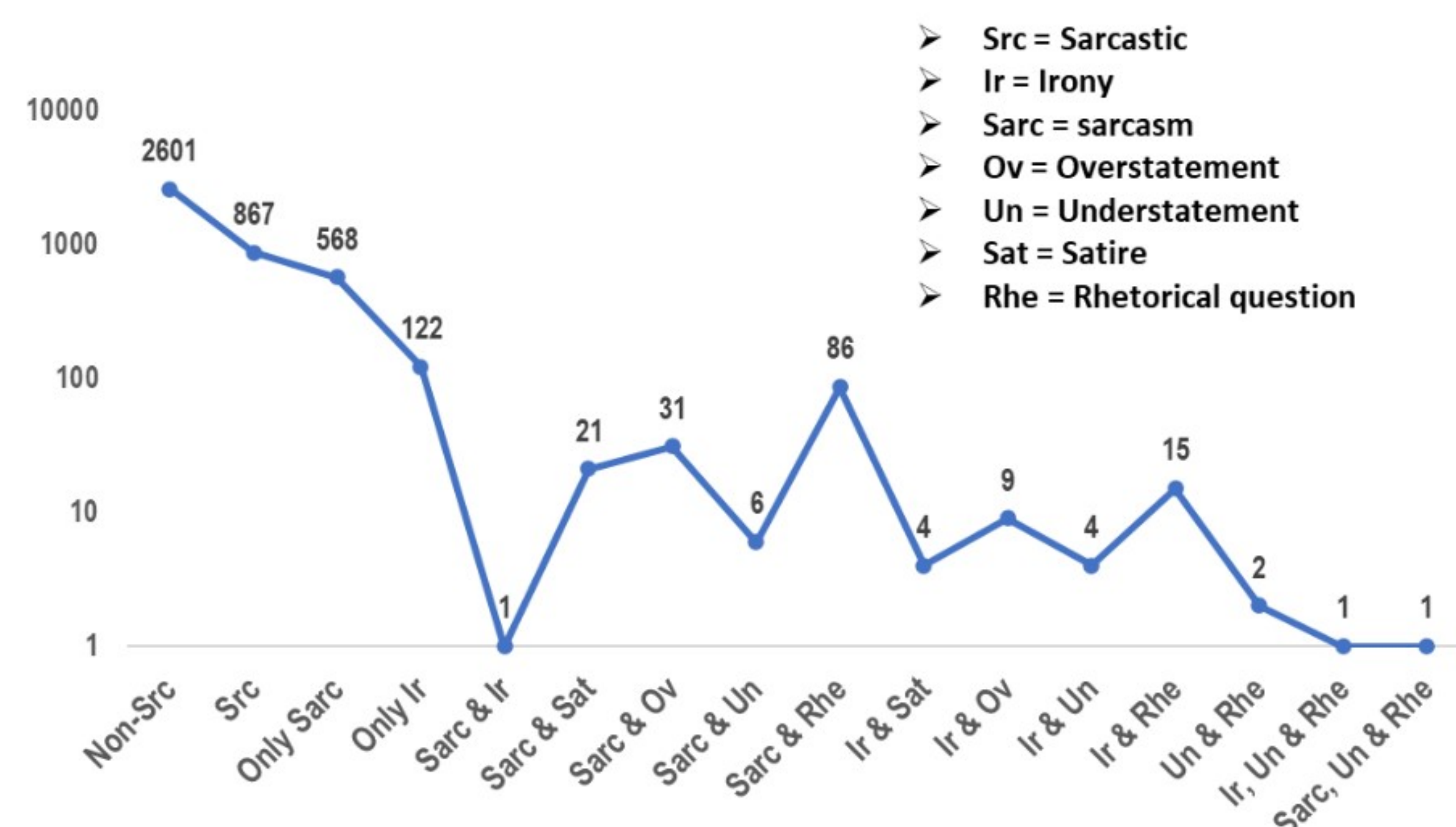


Figure 1. Distribution of dataset given by SemEval Organizers

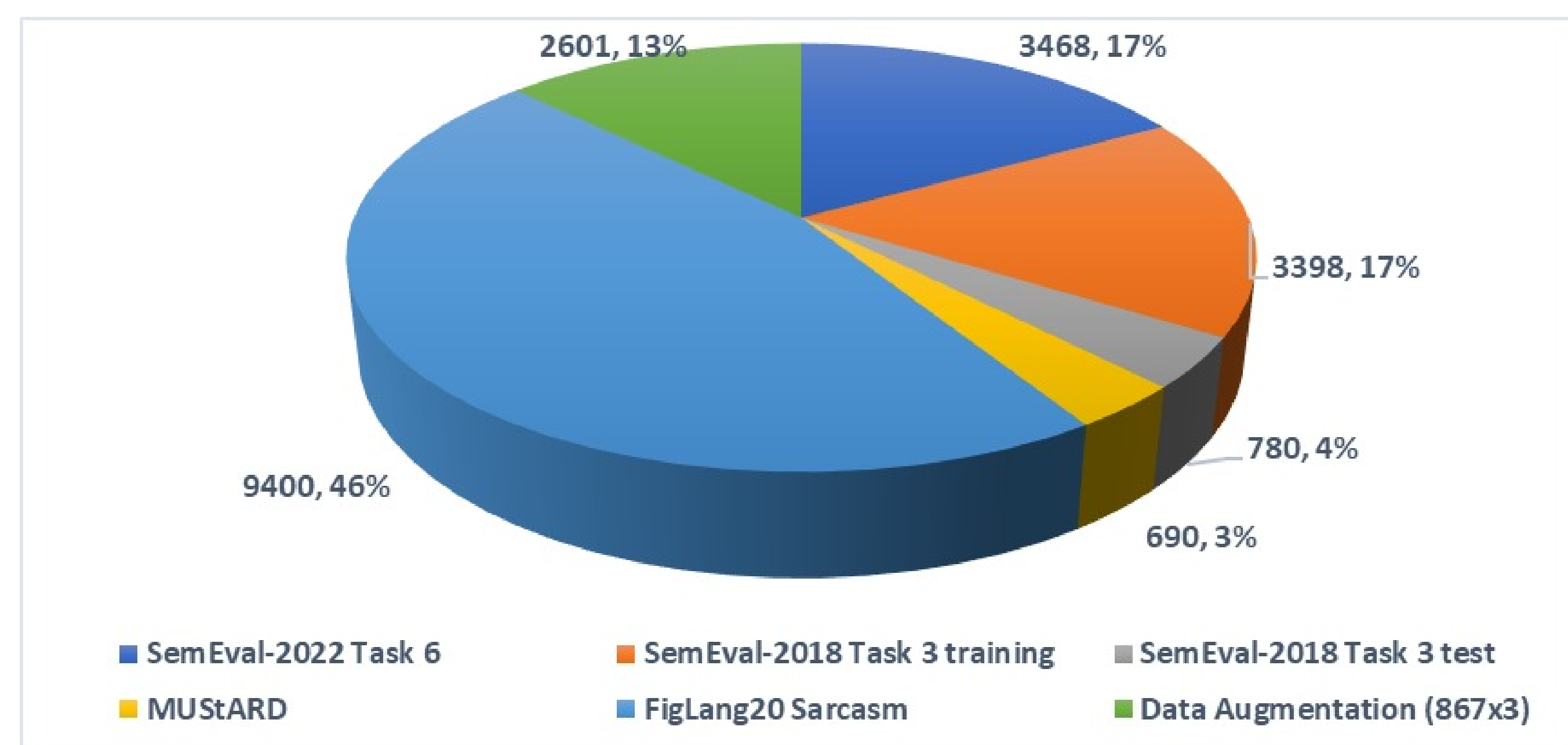


Figure 2. Distribution of additional data sources

Methods

- **Data Preprocessing:** Steps including Case conversion, Stop-word removal, addition of special Tokens and data cleaning are followed.
- **Data Augmentation:** For increasing instances of sarcastic class we use data augmentation technique.
- **Models:** We experimented binary classifier versions of different transformer based architectures to design our models for all sub-tasks.

Results

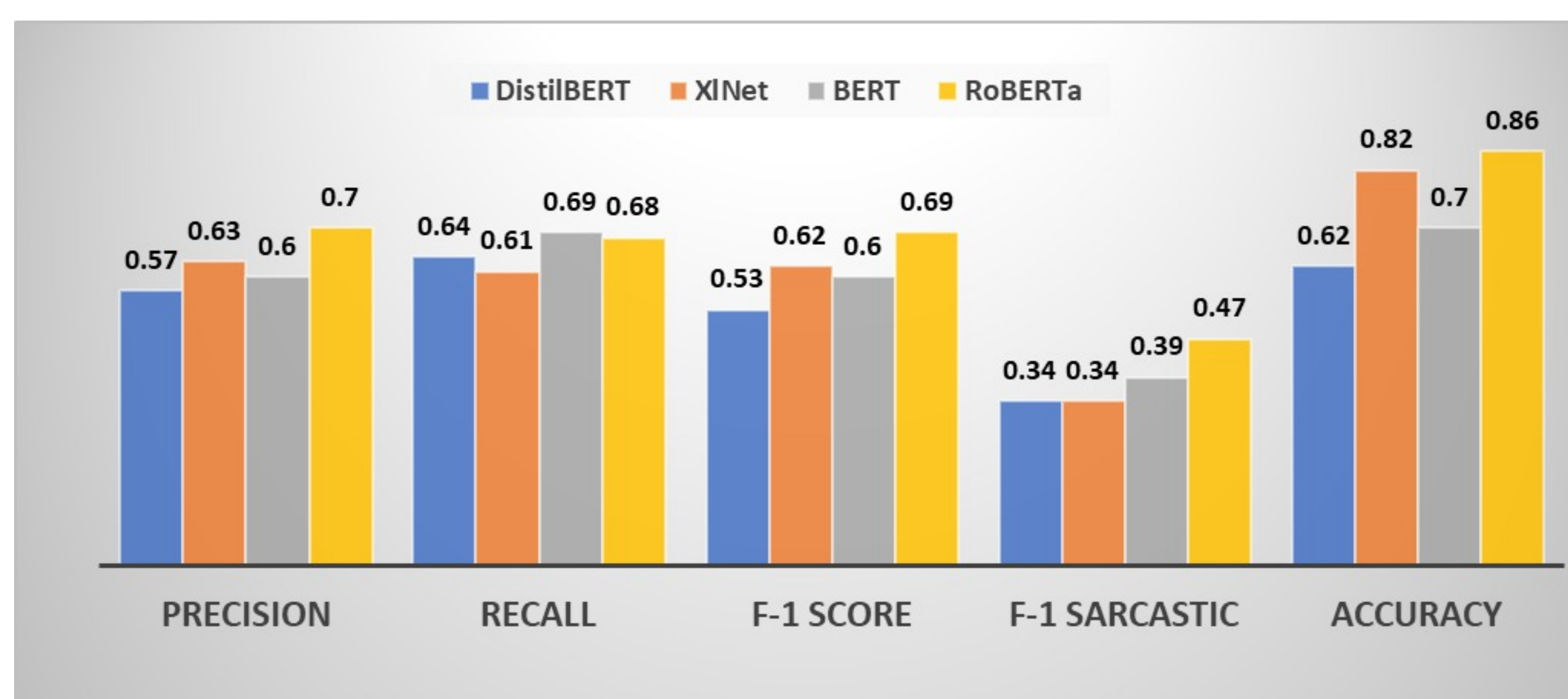


Figure 3. Performance of our models for SubTask A

Results	BERT
Macro F-1	0.075
F1-Sarcasm	0.23
F1-irony	0.096
F1-satire	0.083
F1-understatement	0.00
F1-overstatement	0.00
F1-rhetorical question	0.0414

Table 1. Macro-F1 and class-wise F1 scores for sub-task B

	RoBERTa	XINet	DistilBERT	BERT
Accuracy	0.47	0.49	0.57	0.62

Table 2. Accuracy of our models on evaluation data provided for sub-task C.

Tasks	BERT Model		
	F1 Src	Macro-F1	Accuracy
SubTask A	0.34	0.5406	0.6236
SubTask B		0.0751	
SubTask C		0.6250	0.62

Table 3. Performance of our submitted models for the three tasks

Conclusions

Out of all applied models, RoBERTa performed relatively well.

- **Sub-Task A:** We got 19th rank out of 43 teams.
- **Sub-Task B:** 8th rank out of 22 teams on sub-task B.
- **Sub-Task C:** 13th rank out of 16 teams in sub-task C.

Acknowledgment

Our sincere gratitude to the NAACL organizing committee for the student grant.

References

- **Task site:** <https://sites.google.com/view/semeval2022-isarcasmeval>