

Curating the CareCorpus+ data source for classifying caregiver strategies to support pediatric occupational therapy in early childhood service contexts

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Objectives

1. Curate CareCorpus+, a larger, more diverse data source for strategy classification
2. Validate prior findings about how to best automatically classify strategy data
3. Provide preliminary results on the value of data augmentation to strengthen model performance

Method/Approach

Figure 1. Data included in CareCorpus+ (CC+)



Table 1. Sample manual strategy (n= 3,062) annotation

	Environment/ Context (EC)	Sense of Self (SOS)	Preferences (P)	Activity Competence (AC)
Habilitation Context	Take quiet activities for her to keep occupied at restaurants	Treat my son just as I did my daughter, with the viewpoint that he can do it all	Try to get him to interact by incorporating stuff he likes	His brother helps him read books and play on the trampoline
Rehabilitation Context	Continue to explain the process of what I'm doing, while I'm doing it	Allow child to be in charge of completing activity	We offer choices in foods/snacks-encourage her to choose from options	Hand over hand tooth brushing

Figure 2. Strategy representation from original CareCorpus (CC) dataset⁴ and new extended CC+

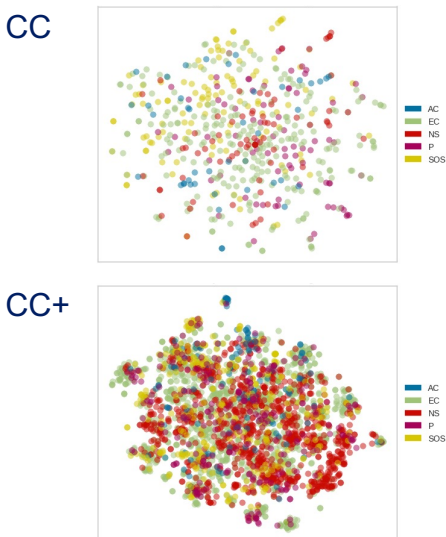


Figure 3. Sample data augmentation

ID	Prompt Template
	Here is an example of Environment/Context strategy: a Finding restaurants that are kid friendly.
	Please generate rewrite of the above strategy keeping the style similar. Finding restaurants that are family friendly.
	Here is an example of Environment/Context strategy in context of outing: b Finding restaurants that are kid friendly.
	Please generate rewrite of the above strategy keeping the style similar. Whether its a cafeteria for school lunch or a fancy restaurant for a date night; you want it to be kid friendly.
	Here is an example of Environment/Context strategy in context of outing in community setting: c Finding restaurants that are kid friendly.
	Please generate rewrite of the above strategy keeping the style similar. Find out what's going on when it comes to family activities and restaurants that are kid friendly.

Results/Practice Implications

1. Findings strengthen evidence for a multinomial strategy classification approach
2. Establish evidence that both the publicly available data and the synthetic strategies result in large model performance gains, with relative F1 increases of 22.6% and 50.9%, respectively



Conclusions

1. CareCorpus+ is a newly curated dataset of caregiver strategies applicable to OT across the broader early childhood age range and care continuum
2. Findings have guided use of new, ethically sound directions for manually or synthetically generating strategy data for similar OT relevant applications

Supplemental Information



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