

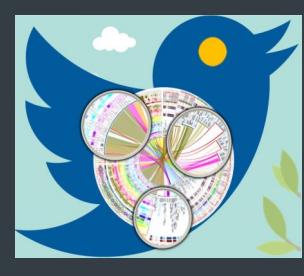


LADy+: Latent Aspect Detection via Backtranslation Augmentation

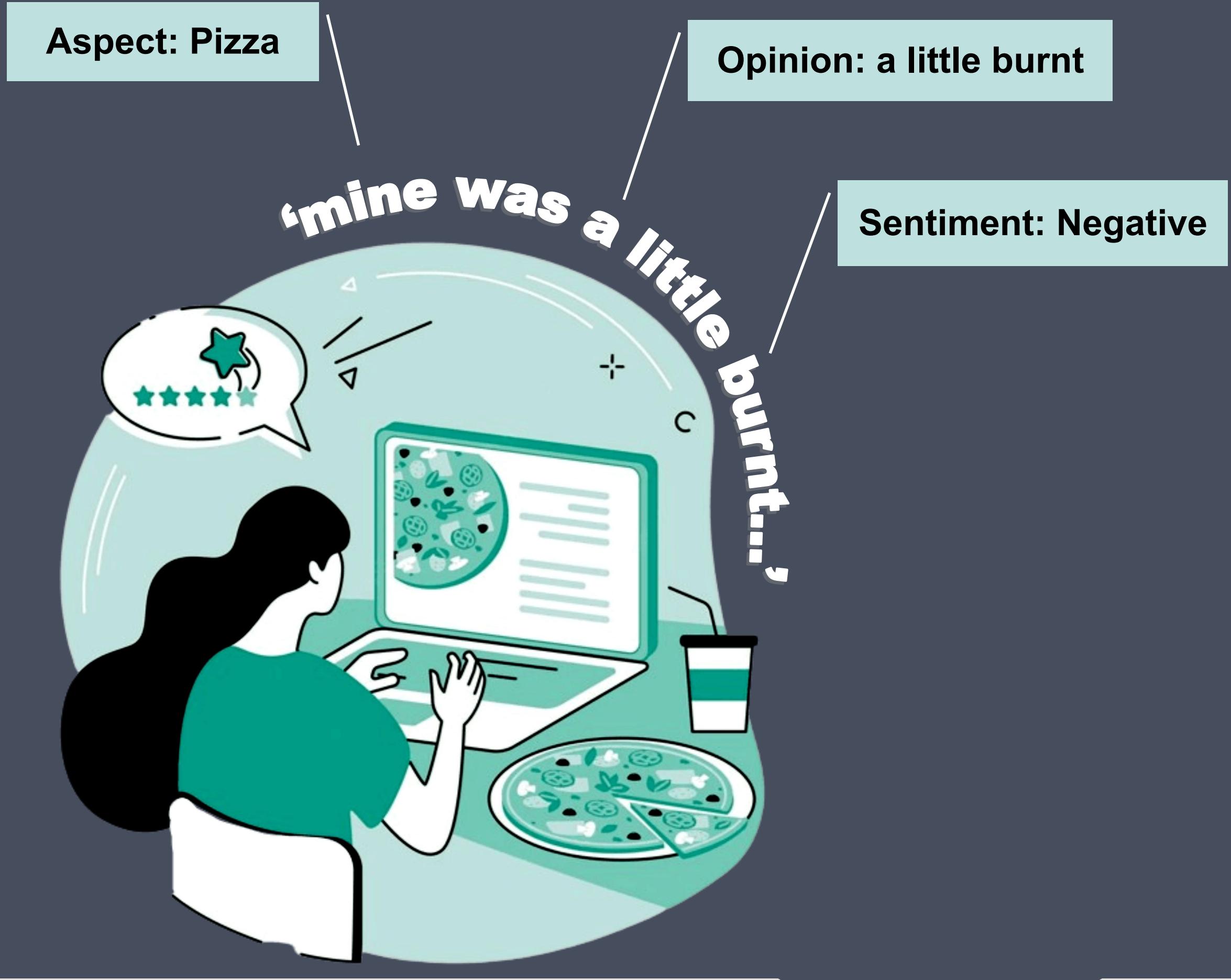
Farinam Hemmatizadeh¹, Christine Wong¹, Medi Mohamadi¹, Alice Yu², Hossein Fani¹

¹ University of Windsor, Canada

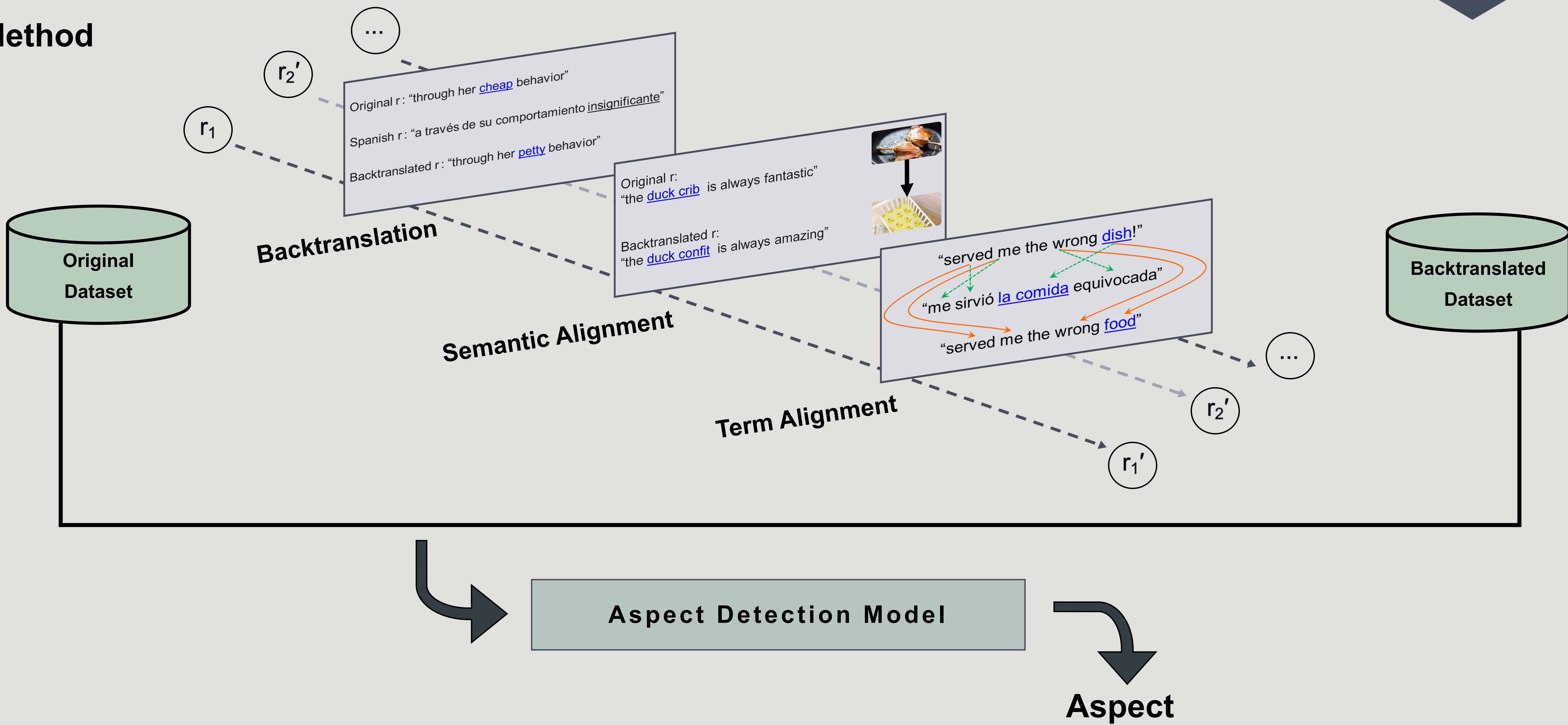
² Vincent Massey Secondary School, Canada



Fani's Lab!



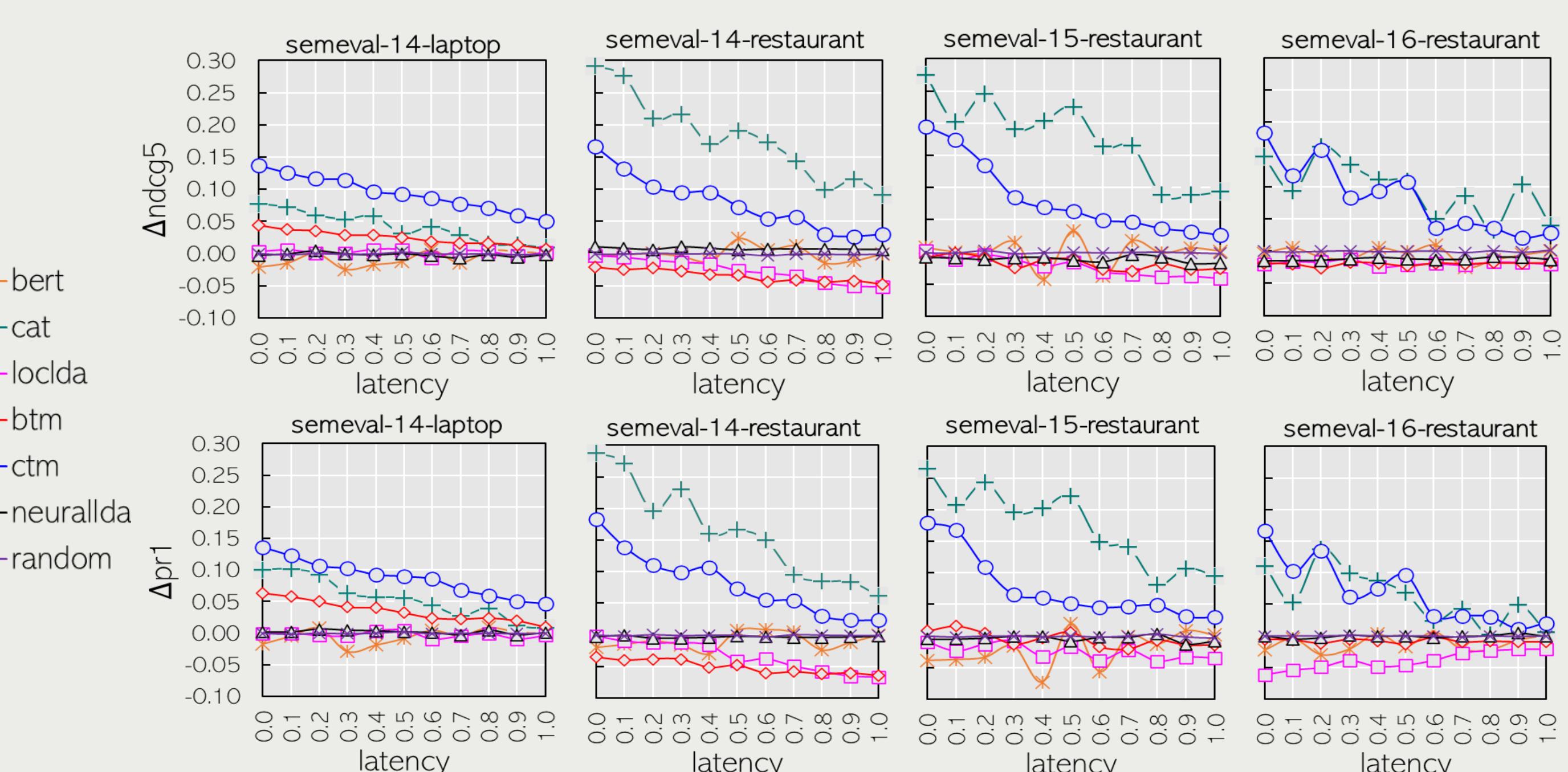
Method



Results

semeval-15 restaurant	bert-tfm			cat			loclda		
	pr1	rec5	ndcg5	pr1	rec5	ndcg5	pr1	rec5	ndcg5
none	0.7000	0.6897	0.6757	0.3327	0.5248	0.4343	0.2320	0.3549	0.2925
+ chinese	0.6661	0.6928	0.6699	0.3723	0.5287	0.4596	0.1968	0.3408	0.2647
+ farsi	0.6742	0.6707	0.6608	0.3703	0.5386	0.4592	0.1840	0.3494	0.2689
+ arabic	0.6661	0.6898	0.6671	0.4139	0.5683	0.4939	0.2000	0.3654	0.2887
+ french	0.6565	0.7030	0.6734	0.4040	0.5584	0.4883	0.2512	0.3577	0.3032
+ german	0.6710	0.6927	0.6721	0.3980	0.5505	0.4787	0.2416	0.3648	0.2976
+ spanish	0.6645	0.7099	0.6769	0.3921	0.5663	0.4842	0.2224	0.3737	0.3035
+ all	0.6613	0.7182	0.6823	0.5980	0.7861	0.7096	0.2592	0.3744	0.3104

semeval-15 restaurant	btm			ctm			random		
	pr1	rec5	ndcg5	pr1	rec5	ndcg5	pr1	rec5	ndcg5
none	0.1872	0.3133	0.2500	0.0560	0.0493	0.0485	0.0000	0.0005	0.0005
+ chinese	0.1760	0.2783	0.2261	0.0624	0.0717	0.0637	0.0016	0.0028	0.0022
+ farsi	0.1776	0.2834	0.2303	0.0560	0.0823	0.0722	0.0000	0.0002	0.0002
+ arabic	0.1568	0.2956	0.2269	0.0592	0.0649	0.0577	0.0000	0.0000	0.0000
+ french	0.1968	0.3048	0.2481	0.0720	0.0837	0.0733	0.0000	0.0008	0.0006
+ german	0.1808	0.2691	0.2242	0.0560	0.0717	0.0603	0.0000	0.0061	0.0036
+ spanish	0.2000	0.2975	0.2466	0.0464	0.0531	0.0458	0.0000	0.0000	0.0000
+ all	0.2128	0.2986	0.2515	0.2192	0.2470	0.2263	0.0016	0.0008	0.0010



Discussion

RQ1: Does backtranslation improve aspect detection methods?

- Yes, especially when augmented from all languages, but improvements vary among different methods and languages.

RQ2: Does backtranslation help when aspects are latent?

- Yes, some unsupervised models gain up to 15% improvement when aspects are latent.

RQ3: Is augmentation's impact consistent across different domains?

- Yes, it improves performance in both restaurant and laptop reviews across datasets.



fani-lab/LADy

