# Image Captioning to Assist the Visually Impaired

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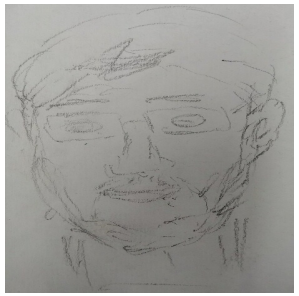
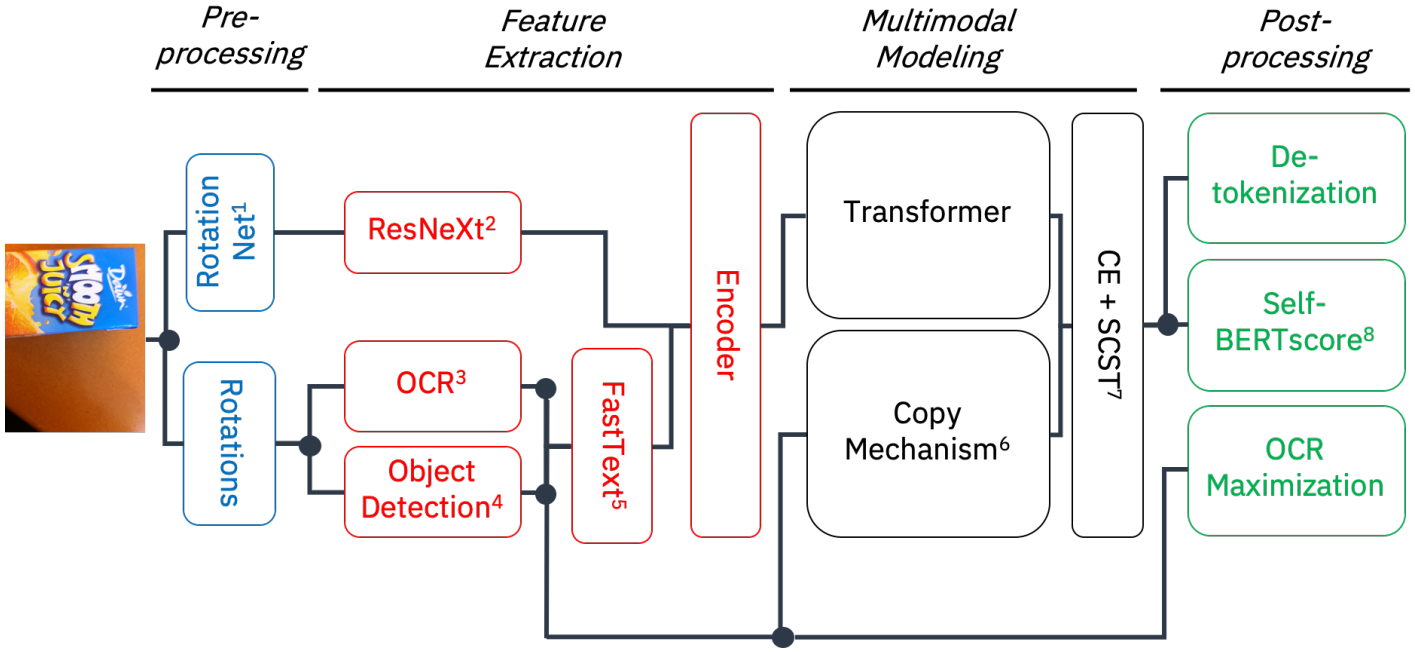


**Jerret Ross**

**Yair Schiff**

**Richard Young**

# MODEL:




# MAIN IDEAS:

Open Source

Ensemble

Pre/Post-process

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   Youngmin Baek et al. “Character Region Awareness for Text Detection”. In: Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition. 2019, pp. 9365–9374.
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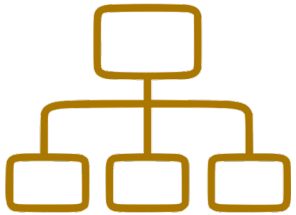
| Copy mechanism included | Transformer Architectures | Test-dev CIDEr Score |
|---|---|---|
| ✗ | *Same* | 76.6 |
| ✗ | *Varying* | 78.0 |
| ✓ | *Same* | 75.1 |
| ✓ | *Varying* | 75.6 |

**Total Ensemble** (90 models, with post-processing) **80.38**

**Open Source**



**Ensemble**

**Pre/Post-process**

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# Open Source



## Ensemble



## Pre/Post-process

*Leveraging existing implementation for OCR and Object Detection modules made incorporation into pipeline more seamless*


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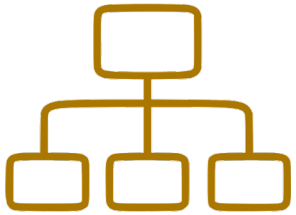
Open Source



**Ensemble**



Pre/Post-process

*Ensembling varying Transformer architectures and combining copy / non-copy mechanism injected caption diversity*

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Open Source



Ensemble

**Pre/Post-process**

*Combining de-tokenization, Self Bert scoring, and OCR-maximization provided additional gains*

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# Live image captioning with text-to-speech

**Richard Young**

Icon credit: Play button: https://freepngimg.com/png/25623-play-button-transparent-background/icon

# Thank you!