Visualizing Neural Machine Translation Attention and Confidence

Matīss Rikters^a, Mark Fishel^b, Ondřej Bojar^c ^aFaculty of Computing, University of Latvia bInstitute of Computer Science, University of Tartu

^cCharles University, Faculty of Mathematics and Physics, Institute of Formal and Applied Linguistics E-mail: matiss@lielakeda.lv, fishel@ut.ee, bojar@ufal.mff.cuni.cz

Confidence Scores

$$CDP = \frac{1}{J} \sum_{j} \log \left(1 + \left(\sum_{i} \propto_{ji} \right)^{2} \right)$$

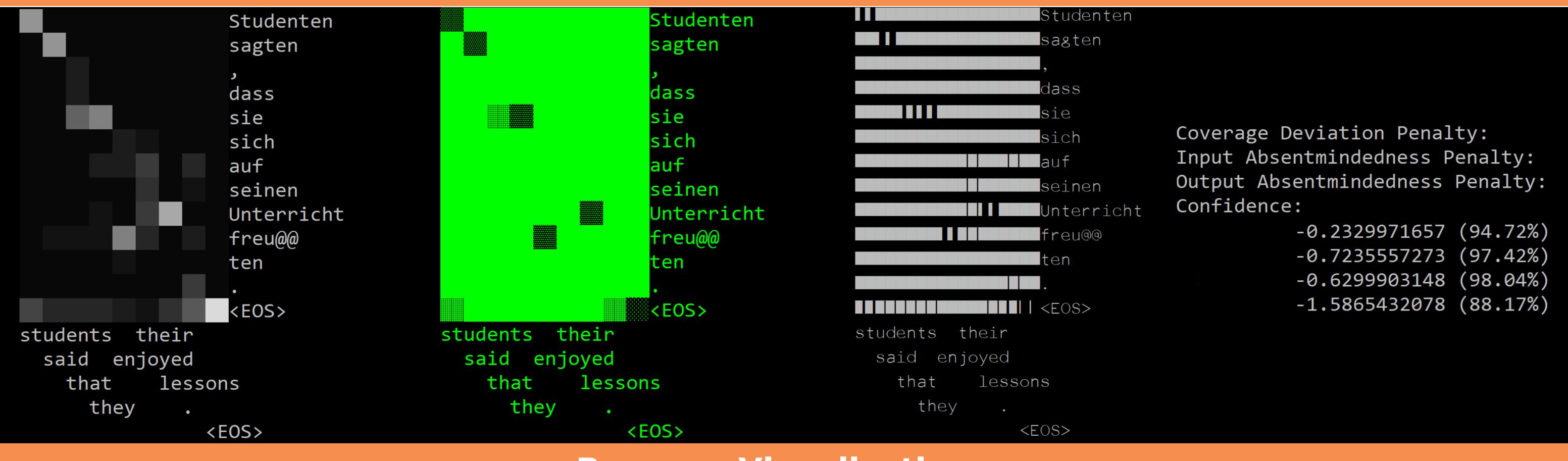
$$AP_{out} = -\frac{1}{I} \sum_{i} \sum_{j} \propto_{ji} \cdot \log \propto_{ji}$$

$$AP_{in} = -\frac{1}{I} \sum_{j} \sum_{i} \propto_{ij} \cdot \log \propto_{ij}$$

 $confidence = CDP + AP_{out} + AP_{in}$

percentage = $e^{-C(X^2)}$

Terminal Visualisations



Browser Visualisations



Features GitHub Poster Demo

Works with attention alignment data from

- . Nematus
- . Neural Monkey
- . AmuNMT (fork github.com/barvins/amunmt)

Visualise translations in

- . Linux Terminal or Windows PowerShell
- . Web browser
 - . Line form or matrix form
 - . Save as PNG
 - . Sort and navigate dataset by confidence scores







ej.uz/nmt-poster



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Acknowledgements









