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### One Model to Rule them All

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## **One Model to Rule them All**

### **Multilingual and Multitask Modelling for Lexical Analysis**

van

**Johannes Bjerva**

1. Semantic tags contain useful information for other lexical labelling tasks, such as part-of-speech tagging.
2. The effectivity of multitask learning is in part a function of correlations between the tasks under consideration.
3. Multilingual word representations allow for straight-forward interpretation of semantic textual similarity between languages.
4. For multilingual learning to be effective, the relatedness between the languages under consideration should be considered.
5. A joint multilingual and multitask learning architecture allows for the exploitation of rich sources of data.
6. Given the massive amounts of available data and computational power, an important issue in NLP is how to utilise such resources effectively.
7. Contrary to what the cover of this thesis might suggest, artificial neural networks in NLP are merely a caricature of the human brain.
8. If not for GPUs and parallel processing, the experiments in this thesis would have taken approximately 200 years to complete.
9. Deep Learning in NLP is seeing the light as you change a hyperparameter, then waking up to face the reality in a pool of NaN.
10. As opposed to the One Ring, the One Model should not be destroyed in the fires of Mordor.