

### MODEL 3 (GEO):

pip install sense2vec

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"water_flow"
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prodigy sense2vec.teach geo3_method /Users/sashaqanderson/Dropbox/USGS/NER_Work/s2v_old --seeds  
"heat_transfer"
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prodigy sense2vec.teach geo3_method /Users/sashaqanderson/Dropbox/USGS/NER_Work/s2v_old --seeds  
"subduction_zone"
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prodigy sense2vec.teach geo3_method /Users/sashaqanderson/Dropbox/USGS/NER_Work/s2v_old --seeds "  
mass_transfer"
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prodigy sense2vec.teach geo3_method /Users/sashaqanderson/Dropbox/USGS/NER_Work/s2v_old --seeds  
"soil_erosion"
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prodigy sense2vec.teach geo3\_method  
/Users/sashaqanderson/Dropbox/USGS/NER\_Work/s2v\_old --seeds "geothermal\_energy" bad  
one! Don't use again.

prodigy terms.to-patterns geo3\_method --label METHOD

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{"label": "METHOD", "pattern": [{"lower": "carbon_emissions | NOUN"}]}
```

```
{"label": "METHOD", "pattern": [{"lower": "biosphere | NOUN"}]}
```

```
{"label": "METHOD", "pattern": [{"lower": "fossil_fuel | NOUN"}]}
```

```
{"label": "METHOD", "pattern": [{"lower": "methane_emissions | NOUN"}]}
```

```
{"label": "METHOD", "pattern": [{"lower": "green_house_gasses | NOUN"}]}
```

```
{"label": "METHOD", "pattern": [{"lower": "overpopulation | NOUN"}]}
```

```
{
  "label": "METHOD",
  "pattern": [{"lower": "greenhouse_emissions|NOUN"}]
},
{
  "label": "METHOD",
  "pattern": [{"lower": "carbon_emission|NOUN"}]
},
{
  "label": "METHOD",
  "pattern": [{"lower": "biomass|NOUN"}]
},
{
  "label": "METHOD",
  "pattern": [{"lower": "pollution|NOUN"}]
},
{
  "label": "METHOD",
  "pattern": [{"lower": "geothermal_energy|NOUN"}]
},
{
  "label": "METHOD",
  "pattern": [{"lower": "geothermal|ADJ"}]
},
{
  "label": "METHOD",
  "pattern": [{"lower": "solar_energy|NOUN"}]
}
```

```
prodigy db-out geo3_method > /Users/sashaqanderson/Dropbox/USGS/NER_Work/geo3method_patterns.jsonl
```

```
Prodigy ner.manual geo3method_data blank:en
/Users/sashaqanderson/Dropbox/USGS/NER_Work/ner_text_train40.jsonl --label METHOD
```

```
prodigy db-out geo3method_data > /Users/sashaqanderson/Dropbox/USGS/geo3method_data_model.jsonl
```

```
python -m spacy pretrain /Users/sashaqanderson/Dropbox/USGS/NER_Work/ner_text_train40.jsonl
en_vectors_web_lg /Users/sashaqanderson/Dropbox/USGS/NER_Work/pretrain_geo3model/ --use-vectors
```

```
Prodigy ner.batch-train geo3method_data en_vectors_web_lg --init-tok2vec
/Users/sashaqanderson/Dropbox/USGS/NER_Work/pretrain_geo3model/model999.bin --output geo3_model --
eval-split 0.2 --label METHOD
```

### 53% Accuracy (oops – I didn't pretrain it first)

```
Prodigy ner.make-gold geo3method_data_correct ./geo3_model
/Users/sashaqanderson/Dropbox/USGS/NER_Work/ner_text_train40.jsonl --label GEO
```

```
Prodigy ner.batch-train geo3method_data_correct en_vectors_web_lg --init-tok2vec
/Users/sashaqanderson/Dropbox/USGS/NER_Work/pretrain_geo3model/model999.bin --output geo3_model --
eval-split 0.2 --label GEO --n-iter 20
```

### 69% (pretraining + make-gold)

```
Prodigy ner.make-gold geo3method_data_correct ./geo3_model
/Users/sashaqanderson/Dropbox/USGS/NER_Work/ner_text.jsonl --label GEO
```

```
Prodigy ner.print-stream geo3_model /Users/sashaqanderson/Dropbox/USGS/NER_Work/ner_text_train40.jsonl -
-label GEO
```

**Ran into a problem with model 2 (NER labeled as METHOD and GEO)... start again.**