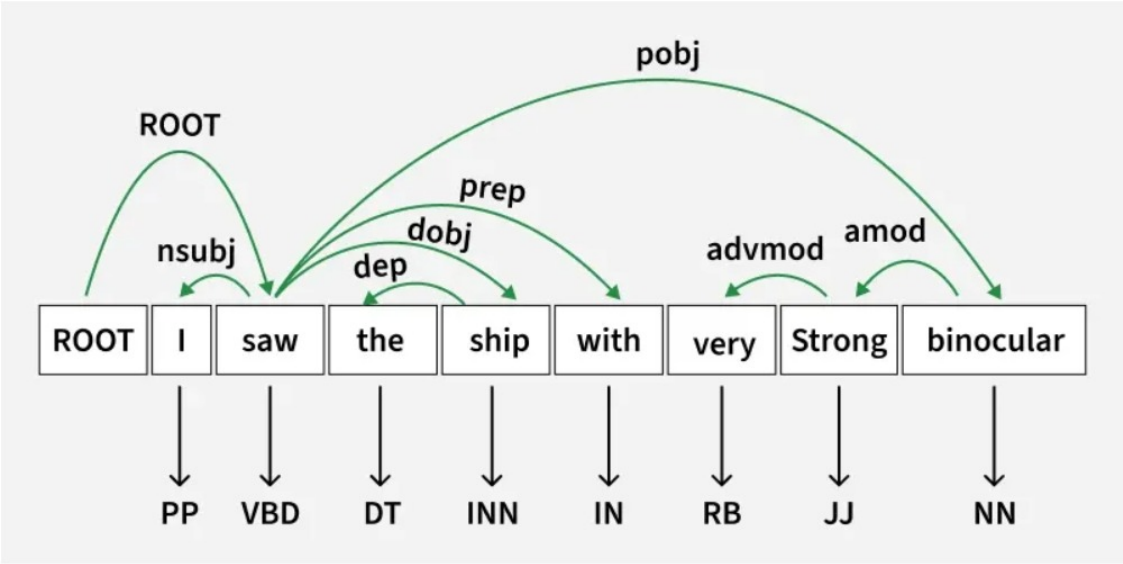
02 Dependency Parsing

December 20, 2025

1 Dependency Parsing



[1]:
```
import spacy
from prettytable import PrettyTable
```

[2]:
```
nlp = spacy.load('en_core_web_sm')
```

[3]:
```
text = "Spot Intelligence is a NLP company that builds custom models"
```

[4]:
```
doc = nlp(text)
doc
```

[4]:
```
Spot Intelligence is a NLP company that builds custom models
```

[5]:
```
table = PrettyTable()
table.field_names = ['token', 'dep', 'head text', 'head pos', 'children']

for token in doc:
        children = [child.text for child in token.children]
```

```
        table.add_row([token.text, token.dep_, token.head.text, token.head.
 ↪pos_, children])

print(table)
```

```
+--------------+----------+--------------+----------+---------------------------
--+
|    token     |   dep    |  head text   | head pos |           children
|
+--------------+----------+--------------+----------+---------------------------
--+
|     Spot     | compound | Intelligence |  PROPN   |              []
|
| Intelligence |  nsubj   |      is      |   AUX    |           ['Spot']
|
|      is      |   ROOT   |      is      |   AUX    | ['Intelligence',
'company'] |
|      a       |   det    |   company    |   NOUN   |              []
|
|     NLP      | compound |   company    |   NOUN   |              []
|
|   company    |   attr   |      is      |   AUX    |    ['a', 'NLP', 'builds']
|
|     that     |  nsubj   |    builds    |   VERB   |              []
|
|    builds    |  relcl   |   company    |   NOUN   |      ['that', 'models']
|
|    custom    | compound |    models    |   NOUN   |              []
|
|    models    |   dobj   |    builds    |   VERB   |          ['custom']
|
+--------------+----------+--------------+----------+---------------------------
--+
```

[6]:
```
from spacy import displacy
displacy.render(doc, style = 'dep', jupyter=True, options={})
```

```
<IPython.core.display.HTML object>
```

[7]:
```
from spacy import displacy
displacy.render(doc, style = 'dep', jupyter=True, options={'distance':85,␣
 ↪'compact':True, 'bg':'#09a3d3', 'color': '#ffffff'})
```

```
<IPython.core.display.HTML object>
```