# Deep Learning CS60010

# Assignment-2 Report

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## en_coarse:

**Hyperparameter:**

```
SEQ_LEN = 30
EMBEDDING_DIM = 100
HIDDEN_DIM    = 500
NUM_EPOCHS    = 10
BATCH_SIZE    = 10
```

**Experiment Setup:**

- Dataset Description: The dataset contains a list of sentences wherein the line next to # id marks the beginning of a sentence. Every sentence has an ID which is followed by a list of words and corresponding tags separated by _ _ separator. The tags are annotated using IOB format ( I: inside, B: beginning, O: outside). 6 coarse tags exist which are further subdivided into 36 fine tags. The dataset is a fine-grained tagset.

- The number of unique tags in coarse grain setting: 14
- The number of unique words in coarse grain setting: 242153
- Training dataset size: 16778
- Validation dataset size: 871
- Test dataset size: 249980

**Performance:**

The training loop runs for **4** epochs with a total of 26.6 million parameters and a test loss of **0.29478907585144043.** I and B versions of all 6 tags exist along with no named tag i.e (O tag without any class).

| | precision | recall | f1-score | support |
|---|---|---|---|---|
| <PAD> | 1.00 | 1.00 | 1.00 | 3727316 |
| B-CreativeWorks | 0.51 | 0.41 | 0.45 | 62124 |
| B-Group | 0.48 | 0.45 | 0.47 | 60026 |
| B-Location | 0.66 | 0.56 | 0.60 | 67893 |
| B-Medical | 0.44 | 0.24 | 0.31 | 22490 |
| B-Person | 0.78 | 0.70 | 0.74 | 137666 |
| B-Product | 0.33 | 0.17 | 0.23 | 27574 |
| I-CreativeWorks | 0.64 | 0.50 | 0.57 | 107463 |
| I-Group | 0.58 | 0.55 | 0.57 | 74136 |
| I-Location | 0.71 | 0.66 | 0.68 | 63007 |
| I-Medical | 0.52 | 0.29 | 0.37 | 10613 |
| I-Person | 0.82 | 0.70 | 0.76 | 153751 |
| I-Product | 0.40 | 0.13 | 0.19 | 17503 |
| O | 0.92 | 0.97 | 0.94 | 2967838 |
| accuracy | | | 0.94 | 7499400 |
| macro avg | 0.63 | 0.52 | 0.56 | 7499400 |
| weighted avg | 0.93 | 0.94 | 0.94 | 7499400 |

**Link:**
https://drive.google.com/file/d/1PpUzyJWFs5c-CJ11x4nreNXoz6HnHQQR/view?usp=share_link

# en_fine:

**Hyperparameter:**

SEQ_LEN = 30
EMBEDDING_DIM = 100
HIDDEN_DIM = 500
NUM_EPOCHS = 10
BATCH_SIZE = 10

**Experiment Setup:**

- Dataset Description: The dataset contains a list of sentences wherein the line next to # id marks the beginning of a sentence. Every sentence has an ID which is followed by a list of words and corresponding tags separated by _ _ separator. The tags are annotated using IOB format ( I: inside, B: beginning, O: outside). 6 coarse tags exist which are further subdivided into 36 fine tags. The dataset is a fine-grained tagset.

- The number of unique tags in fine grain setting: 68
- The number of unique words in fine grain setting: 242153
- Training dataset size: 16778
- Validation dataset size: 871
- Test dataset size: 249980

**Performance:**

The model with 26.7 million parameters runs for **5** epochs with a test loss of **0.4470483958721161.** The dataset has 68 tags indicating the absence of several tags from datasets like OtherCORP, TechCORP, etc.

| | precision | recall | f1-score | support |
|---|---|---|---|---|
| <PAD> | 1.00 | 1.00 | 1.00 | 3727316 |
| B-AerospaceManufacturer | 0.36 | 0.32 | 0.34 | 1015 |
| B-AnatomicalStructure | 0.42 | 0.20 | 0.27 | 5838 |
| B-ArtWork | 0.17 | 0.17 | 0.17 | 1270 |
| B-Artist | 0.51 | 0.58 | 0.54 | 57034 |
| B-Athlete | 0.51 | 0.42 | 0.46 | 27624 |
| B-CarManufacturer | 0.34 | 0.25 | 0.28 | 2984 |
| B-Cleric | 0.36 | 0.20 | 0.26 | 4732 |
| B-Clothing | 0.17 | 0.11 | 0.14 | 2243 |
| B-Disease | 0.39 | 0.25 | 0.30 | 5622 |
| B-Drink | 0.27 | 0.17 | 0.20 | 2246 |
| B-Facility | 0.43 | 0.35 | 0.39 | 16181 |
| B-Food | 0.13 | 0.11 | 0.12 | 5317 |
| B-HumanSettlement | 0.63 | 0.61 | 0.62 | 41099 |
| B-MedicalProcedure | 0.32 | 0.10 | 0.15 | 3850 |
| B-Medication/Vaccine | 0.22 | 0.12 | 0.16 | 5421 |
| B-MusicalGRP | 0.27 | 0.28 | 0.27 | 12969 |
| B-MusicalWork | 0.44 | 0.44 | 0.44 | 15303 |
| B-ORG | 0.38 | 0.39 | 0.39 | 22414 |
| B-OtherLOC | 0.49 | 0.33 | 0.39 | 4635 |
| B-OtherPER | 0.28 | 0.23 | 0.25 | 22027 |
| B-OtherPROD | 0.19 | 0.17 | 0.18 | 11833 |
| B-Politician | 0.25 | 0.25 | 0.25 | 15990 |
| B-PrivateCorp | 0.18 | 0.29 | 0.22 | 810 |
| B-PublicCorp | 0.27 | 0.22 | 0.24 | 6825 |
| B-Scientist | 0.14 | 0.07 | 0.09 | 4928 |
| B-Software | 0.36 | 0.24 | 0.29 | 8962 |
| B-SportsGRP | 0.60 | 0.50 | 0.55 | 13009 |
| B-SportsManager | 0.34 | 0.25 | 0.29 | 5331 |
| B-Station | 0.64 | 0.47 | 0.54 | 5978 |
| B-Symptom | 0.38 | 0.24 | 0.29 | 1759 |
| B-Vehicle | 0.30 | 0.12 | 0.17 | 5935 |
| B-VisualWork | 0.43 | 0.30 | 0.35 | 19677 |
| B-WrittenWork | 0.52 | 0.29 | 0.37 | 16912 |
| I-AerospaceManufacturer | 0.44 | 0.44 | 0.44 | 802 |
| I-AnatomicalStructure | 0.45 | 0.23 | 0.31 | 2152 |
| I-ArtWork | 0.32 | 0.17 | 0.22 | 2966 |
| I-Artist | 0.54 | 0.55 | 0.54 | 59256 |
| I-Athlete | 0.54 | 0.39 | 0.45 | 28000 |
| I-CarManufacturer | 0.56 | 0.27 | 0.36 | 1192 |
| I-Cleric | 0.47 | 0.25 | 0.32 | 6381 |
| I-Clothing | 0.28 | 0.17 | 0.21 | 831 |
| I-Disease | 0.41 | 0.33 | 0.36 | 3892 |
| I-Drink | 0.21 | 0.08 | 0.11 | 806 |
| I-Facility | 0.53 | 0.47 | 0.49 | 24859 |
| I-Food | 0.19 | 0.07 | 0.11 | 1930 |
| I-HumanSettlement | 0.78 | 0.67 | 0.72 | 19317 |
| I-MedicalProcedure | 0.32 | 0.22 | 0.26 | 2590 |
| I-Medication/Vaccine | 0.30 | 0.13 | 0.18 | 1166 |
| I-MusicalGRP | 0.37 | 0.30 | 0.33 | 14675 |
| I-MusicalWork | 0.61 | 0.46 | 0.52 | 30093 |
| I-ORG | 0.54 | 0.47 | 0.50 | 34336 |
| I-OtherLOC | 0.61 | 0.47 | 0.53 | 9867 |
| I-OtherPER | 0.32 | 0.27 | 0.29 | 27825 |
| I-OtherPROD | 0.25 | 0.16 | 0.19 | 8983 |
| I-Politician | 0.31 | 0.30 | 0.30 | 20957 |
| I-PrivateCorp | 0.25 | 0.34 | 0.29 | 757 |
| I-PublicCorp | 0.36 | 0.17 | 0.23 | 4689 |
| I-Scientist | 0.14 | 0.11 | 0.13 | 5838 |
| I-Software | 0.42 | 0.27 | 0.33 | 9648 |
| I-SportsGRP | 0.67 | 0.59 | 0.62 | 17685 |
| I-SportsManager | 0.39 | 0.24 | 0.30 | 5494 |
| I-Station | 0.70 | 0.66 | 0.68 | 8964 |
| I-Symptom | 0.39 | 0.28 | 0.33 | 813 |
| I-Vehicle | 0.26 | 0.13 | 0.17 | 4953 |
| I-VisualWork | 0.52 | 0.29 | 0.37 | 35654 |
| I-WrittenWork | 0.70 | 0.44 | 0.54 | 29102 |
| O | 0.92 | 0.97 | 0.95 | 2967838 |
| accuracy | | | 0.92 | 7499400 |
| macro avg | 0.41 | 0.31 | 0.35 | 7499400 |
| weighted avg | 0.91 | 0.92 | 0.92 | 7499400 |

**Link:**
https://drive.google.com/file/d/1-07zrEDTzKlIFbv67VrF7vRlVeNO8wVC/view?usp=share_link

# bn_coarse:

**Hyperparameter:**

SEQ_LEN = 30

EMBEDDING_DIM = 100
HIDDEN_DIM = 500
NUM_EPOCHS = 10
BATCH_SIZE = 10

**Experiment Setup:**

- Dataset Description: The dataset contains a list of sentences wherein the line next to # id marks the beginning of a sentence. Every sentence has an ID which is followed by a list of words and corresponding tags separated by _ _ separator. The tags are annotated using IOB format ( I: inside, B: beginning, O: outside). 6 coarse tags exist which are further subdivided into 36 fine tags. The dataset is a fine-grained tagset.

- The number of unique words in coarse grain setting: 42617
- The number of unique tags in coarse grain setting: 14
- Training dataset size: 9708
- Validation dataset size: 507
- Test dataset size: 19859

**Performance:**

The training loop runs for **5** epochs with a total of 6.7 million parameters and a test loss of **0.1843109428882599.** I and B versions of all 6 tags exist along with no named tag i.e (O tag without any class).

| | precision | recall | f1-score | support |
|---|---|---|---|---|
| <PAD> | 1.00 | 1.00 | 1.00 | 339381 |
| B-CreativeWorks | 0.57 | 0.53 | 0.55 | 3640 |
| B-Group | 0.79 | 0.69 | 0.73 | 3651 |
| B-Location | 0.79 | 0.63 | 0.70 | 7375 |
| B-Medical | 0.70 | 0.62 | 0.66 | 1919 |
| B-Person | 0.71 | 0.67 | 0.69 | 6935 |
| B-Product | 0.57 | 0.44 | 0.50 | 1493 |
| I-CreativeWorks | 0.75 | 0.56 | 0.64 | 4698 |
| I-Group | 0.87 | 0.79 | 0.83 | 4970 |
| I-Location | 0.81 | 0.72 | 0.76 | 3302 |
| I-Medical | 0.82 | 0.65 | 0.72 | 669 |
| I-Person | 0.75 | 0.70 | 0.73 | 7696 |
| I-Product | 0.72 | 0.48 | 0.58 | 762 |
| O | 0.95 | 0.98 | 0.97 | 209279 |
| accuracy | | | 0.97 | 595770 |
| macro avg | 0.77 | 0.68 | 0.72 | 595770 |
| weighted avg | 0.96 | 0.97 | 0.96 | 595770 |

**Link:**
https://drive.google.com/file/d/1MRsP3wFF8EMCI8-Z_VHzWuMJs6x1Fdn0/view?usp=share_link

# bn_fine:

**Hyperparameter:**

```
SEQ_LEN = 30
EMBEDDING_DIM = 100
HIDDEN_DIM    = 500
NUM_EPOCHS    = 10
BATCH_SIZE    = 10
```

**Experiment Setup:**

- Dataset Description: The dataset contains a list of sentences wherein the line next to # id marks the beginning of a sentence. Every sentence has an ID which is followed by a list of words and corresponding tags separated by _ _ separator. The tags are annotated using IOB format ( I: inside, B: beginning, O: outside). 6 coarse tags exist which are further subdivided into 36 fine tags. The dataset is a fine-grained tagset.

- The number of unique tags in fine grain setting: 68
- The number of unique words in fine grain setting: 42617
- Training dataset size: 9708
- Validation dataset size: 507
- Test dataset size: 19859

**Performance:**

The model with 6.7 million parameters runs for **5** epochs with a test loss of **0.258697509765625.** The dataset has 68 tags indicating the absence of several tags from datasets like OtherCORP, TechCORP, etc.

| | precision | recall | f1-score | support |
|---|---|---|---|---|
| <PAD> | 1.00 | 1.00 | 1.00 | 339381 |
| B-AerospaceManufacturer | 0.16 | 0.05 | 0.08 | 97 |
| B-AnatomicalStructure | 0.72 | 0.47 | 0.57 | 532 |
| B-ArtWork | 0.17 | 0.01 | 0.02 | 455 |
| B-Artist | 0.46 | 0.41 | 0.43 | 2744 |
| B-Athlete | 0.38 | 0.29 | 0.33 | 1087 |
| B-CarManufacturer | 0.57 | 0.82 | 0.68 | 84 |
| B-Cleric | 0.39 | 0.60 | 0.48 | 240 |
| B-Clothing | 0.25 | 0.65 | 0.36 | 17 |
| B-Disease | 0.78 | 0.58 | 0.66 | 554 |
| B-Drink | 0.62 | 0.82 | 0.71 | 120 |
| B-Facility | 0.56 | 0.44 | 0.50 | 894 |
| B-Food | 0.48 | 0.37 | 0.41 | 453 |
| B-HumanSettlement | 0.75 | 0.67 | 0.70 | 6011 |
| B-MedicalProcedure | 0.76 | 0.63 | 0.69 | 266 |
| B-Medication/Vaccine | 0.65 | 0.51 | 0.57 | 462 |
| B-MusicalGRP | 0.54 | 0.55 | 0.55 | 300 |
| B-MusicalWork | 0.44 | 0.42 | 0.43 | 226 |
| B-ORG | 0.86 | 0.62 | 0.72 | 1988 |
| B-OtherLOC | 0.76 | 0.62 | 0.69 | 172 |
| B-OtherPER | 0.31 | 0.32 | 0.31 | 1117 |
| B-OtherPROD | 0.55 | 0.34 | 0.42 | 704 |
| B-Politician | 0.42 | 0.31 | 0.35 | 1294 |
| B-PrivateCorp | 0.98 | 0.79 | 0.87 | 127 |
| B-PublicCorp | 0.62 | 0.64 | 0.63 | 460 |
| B-Scientist | 0.38 | 0.24 | 0.29 | 255 |
| B-Software | 0.78 | 0.63 | 0.70 | 812 |
| B-SportsGRP | 0.76 | 0.80 | 0.78 | 595 |
| B-SportsManager | 0.29 | 0.37 | 0.33 | 198 |
| B-Station | 0.75 | 0.79 | 0.77 | 298 |
| B-Symptom | 0.58 | 0.90 | 0.71 | 105 |
| B-Vehicle | 0.74 | 0.62 | 0.68 | 199 |
| B-VisualWork | 0.41 | 0.37 | 0.39 | 923 |
| B-WrittenWork | 0.67 | 0.52 | 0.59 | 1224 |
| I-AerospaceManufacturer | 0.17 | 0.01 | 0.02 | 114 |
| I-AnatomicalStructure | 0.66 | 0.47 | 0.55 | 91 |
| I-ArtWork | 0.14 | 0.01 | 0.01 | 832 |
| I-Artist | 0.51 | 0.41 | 0.45 | 2893 |
| I-Athlete | 0.44 | 0.30 | 0.36 | 1165 |
| I-CarManufacturer | 0.88 | 0.91 | 0.90 | 57 |
| I-Cleric | 0.64 | 0.74 | 0.69 | 268 |
| I-Clothing | 0.83 | 0.71 | 0.77 | 7 |
| I-Disease | 0.84 | 0.60 | 0.70 | 231 |
| I-Drink | 1.00 | 0.81 | 0.89 | 21 |
| I-Facility | 0.71 | 0.66 | 0.68 | 905 |
| I-Food | 0.69 | 0.41 | 0.51 | 175 |
| I-HumanSettlement | 0.81 | 0.68 | 0.74 | 1672 |
| I-MedicalProcedure | 0.93 | 0.69 | 0.79 | 155 |
| I-Medication/Vaccine | 0.84 | 0.61 | 0.71 | 175 |
| I-MusicalGRP | 0.65 | 0.62 | 0.64 | 239 |
| I-MusicalWork | 0.51 | 0.49 | 0.50 | 304 |
| I-ORG | 0.87 | 0.76 | 0.81 | 2941 |
| I-OtherLOC | 0.62 | 0.67 | 0.64 | 187 |
| I-OtherPER | 0.34 | 0.33 | 0.34 | 1334 |
| I-OtherPROD | 0.73 | 0.46 | 0.57 | 458 |
| I-Politician | 0.54 | 0.38 | 0.44 | 1515 |
| I-PrivateCorp | 1.00 | 0.86 | 0.92 | 69 |
| I-PublicCorp | 0.72 | 0.75 | 0.73 | 282 |
| I-Scientist | 0.41 | 0.28 | 0.33 | 319 |
| I-Software | 0.78 | 0.57 | 0.66 | 466 |
| I-SportsGRP | 0.86 | 0.87 | 0.86 | 1268 |
| I-SportsManager | 0.37 | 0.46 | 0.41 | 202 |
| I-Station | 0.84 | 0.90 | 0.87 | 538 |
| I-Symptom | 1.00 | 0.41 | 0.58 | 17 |
| I-Vehicle | 0.74 | 0.52 | 0.61 | 101 |
| I-VisualWork | 0.58 | 0.44 | 0.50 | 1546 |
| I-WrittenWork | 0.68 | 0.67 | 0.67 | 1550 |
| O | 0.95 | 0.98 | 0.96 | 209279 |
| accuracy | | | 0.96 | 595770 |
| macro avg | 0.63 | 0.55 | 0.58 | 595770 |
| weighted avg | 0.95 | 0.96 | 0.95 | 595770 |

**Link:**
https://drive.google.com/file/d/1cKYF8wm1M7gWFB486HP8yA-ebXfyRM-F/view?usp=share_link

## hi_coarse:

**Hyperparameter:**

SEQ_LEN = 30
EMBEDDING_DIM = 100
HIDDEN_DIM = 500
NUM_EPOCHS = 10
BATCH_SIZE = 10

**Experiment Setup:**

- Dataset Description: The dataset contains a list of sentences wherein the line next to # id marks the beginning of a sentence. Every sentence has an ID which is followed by a list of words and corresponding tags separated by _ _ separator. The tags are annotated using IOB format ( I: inside, B: beginning, O: outside). 6 (IOB for each i.e. total of 18) coarse tags exist which are further subdivided into 36 fine tags (IOB for each i.e. total of 108). The dataset is a fine-grained tagset.

- Number of unique tags in coarse grain setting: 14
- Number of unique words in coarse grain setting: 30589
- Training dataset size: 9632
- Validation dataset size: 514
- Test dataset size: 18399

**Performance:**

The training loop runs for **5** epochs with a total of 5.5 million parameters and a test loss of **0.20241768658161163.** I and B versions of all 6 tags exist along with no named tag i.e (O tag without any class).

| | precision | recall | f1-score | support |
|---|---|---|---|---|
| <PAD> | 1.00 | 1.00 | 1.00 | 258203 |
| B-CreativeWorks | 0.66 | 0.53 | 0.59 | 2802 |
| B-Group | 0.76 | 0.73 | 0.74 | 3893 |
| B-Location | 0.82 | 0.59 | 0.68 | 7171 |
| B-Medical | 0.72 | 0.60 | 0.66 | 1973 |
| B-Person | 0.69 | 0.64 | 0.67 | 5732 |
| B-Product | 0.50 | 0.57 | 0.53 | 1608 |
| I-CreativeWorks | 0.77 | 0.51 | 0.62 | 3908 |
| I-Group | 0.87 | 0.81 | 0.84 | 5567 |
| I-Location | 0.80 | 0.67 | 0.73 | 3251 |
| I-Medical | 0.83 | 0.59 | 0.69 | 800 |
| I-Person | 0.77 | 0.65 | 0.70 | 6532 |
| I-Product | 0.65 | 0.53 | 0.58 | 755 |
| O | 0.96 | 0.98 | 0.97 | 249775 |
| accuracy | | | 0.96 | 551970 |
| macro avg | 0.77 | 0.67 | 0.71 | 551970 |
| weighted avg | 0.96 | 0.96 | 0.96 | 551970 |

**Link:**
https://drive.google.com/file/d/1K3tEwrwUfqsX7Nbl7snZ8MgU6W8SUuXs/view?usp=share_link

# hi_fine:

**Hyperparameter:**

```
SEQ_LEN = 30
EMBEDDING_DIM = 100
HIDDEN_DIM    = 500
NUM_EPOCHS    = 10
BATCH_SIZE    = 10
```

**Experiment Setup:**

- Dataset Description: The dataset contains a list of sentences wherein the line next to # id marks the beginning of a sentence. Every sentence has an ID which is followed by a list of words and corresponding tags separated by _ _ separator. The tags are annotated using IOB format ( I: inside, B: beginning, O: outside). 6 coarse tags exist which are further subdivided into 36 fine tags. The dataset is a fine-grained tagset.

- Number of unique tags in fine grain setting: 68
- Number of unique words in fine grain setting: 30589
- Training dataset size: 9632
- Validation dataset size: 514
- Test dataset size: 18399

**Performance:**

The model with 5.5 million parameters runs for **6** epochs with a test loss of **0.2852320969104767.** The dataset has 68 tags indicating the absence of several tags from datasets like OtherCORP, TechCORP, etc.

| | precision | recall | f1-score | support |
|---|---|---|---|---|
| <PAD> | 1.00 | 1.00 | 1.00 | 258203 |
| B-AerospaceManufacturer | 0.36 | 0.05 | 0.08 | 85 |
| B-AnatomicalStructure | 0.75 | 0.57 | 0.65 | 489 |
| B-ArtWork | 0.67 | 0.01 | 0.02 | 426 |
| B-Artist | 0.55 | 0.35 | 0.43 | 1852 |
| B-Athlete | 0.67 | 0.55 | 0.61 | 1171 |
| B-CarManufacturer | 0.75 | 0.84 | 0.79 | 146 |
| B-Cleric | 0.60 | 0.80 | 0.69 | 188 |
| B-Clothing | 0.59 | 0.75 | 0.66 | 77 |
| B-Disease | 0.77 | 0.57 | 0.66 | 633 |
| B-Drink | 0.73 | 0.70 | 0.72 | 135 |
| B-Facility | 0.54 | 0.41 | 0.47 | 859 |
| B-Food | 0.46 | 0.54 | 0.50 | 428 |
| B-HumanSettlement | 0.73 | 0.64 | 0.68 | 5825 |
| B-MedicalProcedure | 0.69 | 0.63 | 0.66 | 334 |
| B-Medication/Vaccine | 0.50 | 0.64 | 0.56 | 377 |
| B-MusicalGRP | 0.58 | 0.72 | 0.64 | 173 |
| B-MusicalWork | 0.28 | 0.75 | 0.41 | 44 |
| B-ORG | 0.69 | 0.68 | 0.68 | 1847 |
| B-OtherLOC | 0.61 | 0.64 | 0.63 | 231 |
| B-OtherPER | 0.31 | 0.33 | 0.32 | 741 |
| B-OtherPROD | 0.38 | 0.39 | 0.39 | 778 |
| B-Politician | 0.36 | 0.48 | 0.41 | 1155 |
| B-PrivateCorp | 0.90 | 0.68 | 0.78 | 84 |
| B-PublicCorp | 0.66 | 0.61 | 0.63 | 416 |
| B-Scientist | 0.30 | 0.57 | 0.39 | 132 |
| B-Software | 0.76 | 0.69 | 0.72 | 701 |
| B-SportsGRP | 0.90 | 0.79 | 0.84 | 1142 |
| B-SportsManager | 0.31 | 0.02 | 0.03 | 493 |
| B-Station | 0.65 | 0.74 | 0.69 | 256 |
| B-Symptom | 0.70 | 0.76 | 0.73 | 140 |
| B-Vehicle | 0.63 | 0.69 | 0.66 | 190 |
| B-VisualWork | 0.56 | 0.37 | 0.45 | 753 |
| B-WrittenWork | 0.63 | 0.60 | 0.61 | 878 |
| I-AerospaceManufacturer | 1.00 | 0.03 | 0.06 | 94 |
| I-AnatomicalStructure | 0.92 | 0.53 | 0.67 | 109 |
| I-ArtWork | 0.80 | 0.00 | 0.01 | 1020 |
| I-Artist | 0.60 | 0.40 | 0.48 | 1931 |
| I-Athlete | 0.72 | 0.53 | 0.61 | 1260 |
| I-CarManufacturer | 0.90 | 0.90 | 0.90 | 69 |
| I-Cleric | 0.74 | 0.86 | 0.79 | 200 |
| I-Clothing | 0.67 | 0.29 | 0.40 | 7 |
| I-Disease | 0.83 | 0.62 | 0.71 | 303 |
| I-Drink | 0.82 | 0.49 | 0.61 | 63 |
| I-Facility | 0.63 | 0.40 | 0.49 | 747 |
| I-Food | 0.71 | 0.62 | 0.66 | 151 |
| I-HumanSettlement | 0.80 | 0.67 | 0.73 | 1712 |
| I-MedicalProcedure | 0.85 | 0.69 | 0.76 | 222 |
| I-Medication/Vaccine | 0.82 | 0.63 | 0.71 | 137 |
| I-MusicalGRP | 0.80 | 0.80 | 0.80 | 143 |
| I-MusicalWork | 0.31 | 0.76 | 0.44 | 29 |
| I-ORG | 0.89 | 0.75 | 0.81 | 3046 |
| I-OtherLOC | 0.82 | 0.71 | 0.76 | 259 |
| I-OtherPER | 0.33 | 0.41 | 0.37 | 887 |
| I-OtherPROD | 0.61 | 0.41 | 0.49 | 434 |
| I-Politician | 0.49 | 0.50 | 0.49 | 1420 |
| I-PrivateCorp | 0.95 | 0.77 | 0.85 | 81 |
| I-PublicCorp | 0.66 | 0.68 | 0.67 | 252 |
| I-Scientist | 0.34 | 0.57 | 0.43 | 175 |
| I-Software | 0.81 | 0.55 | 0.65 | 360 |
| I-SportsGRP | 0.92 | 0.78 | 0.85 | 1882 |
| I-SportsManager | 0.28 | 0.01 | 0.02 | 659 |
| I-Station | 0.90 | 0.77 | 0.83 | 533 |
| I-Symptom | 0.81 | 0.59 | 0.68 | 29 |
| I-Vehicle | 0.76 | 0.78 | 0.77 | 100 |
| I-VisualWork | 0.63 | 0.49 | 0.55 | 1377 |
| I-WrittenWork | 0.78 | 0.73 | 0.75 | 1122 |
| O | 0.96 | 0.98 | 0.97 | 249775 |
| accuracy | | | 0.96 | 551970 |
| macro avg | 0.67 | 0.58 | 0.59 | 551970 |
| weighted avg | 0.95 | 0.96 | 0.95 | 551970 |

**Link:**
https://drive.google.com/file/d/1-ErZvIDwuNt6IPHTLzcAkIMvKVm_hdyI/view?usp=share_link