Improving Hypernymy Prediction via Taxonomy Enhanced Adversarial Learning

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Three Models for Hypernymy Prediction

- **U-TEAL**
  - Unsupervised neural network-based hypernymy measure

- **S-TEAL**
  - Supervised neural network-based hypernymy classifier

- **AS-TEAL**
  - Adversarial supervised neural network-based hypernymy classifier
  - Fusing hypernymy relations from training training data and existing taxonomies
Experiments

• **Taxonomy Data**
  – IS-A relations sampled from Microsoft Concept Graph

• **Three Tasks**
  – Unsupervised Hypernymy Classification
  – Supervised Hypernymy Detection
  – Graded Lexical Entailment

• **Two Applications**
  – Language Extensibility Study
  – Enriching Microsoft Concept Graph

OUTPERFORMING STATE-OF-THE-ARTS

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