Combating with Extremely Noisy Samples in Weakly Supervised Slot Filling for Automatic Diagnosis

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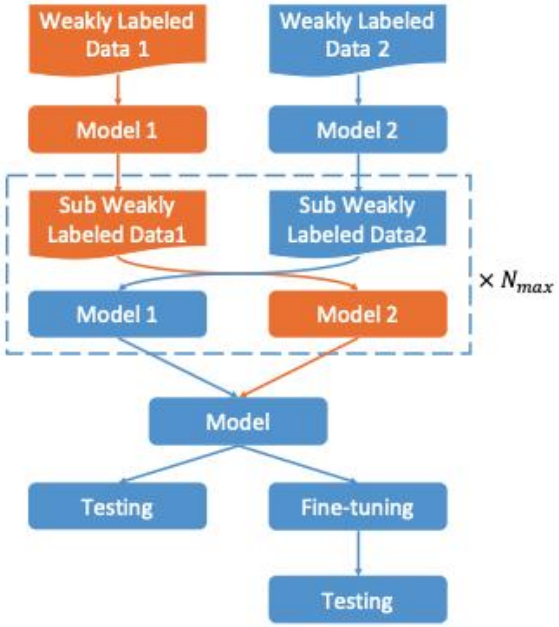
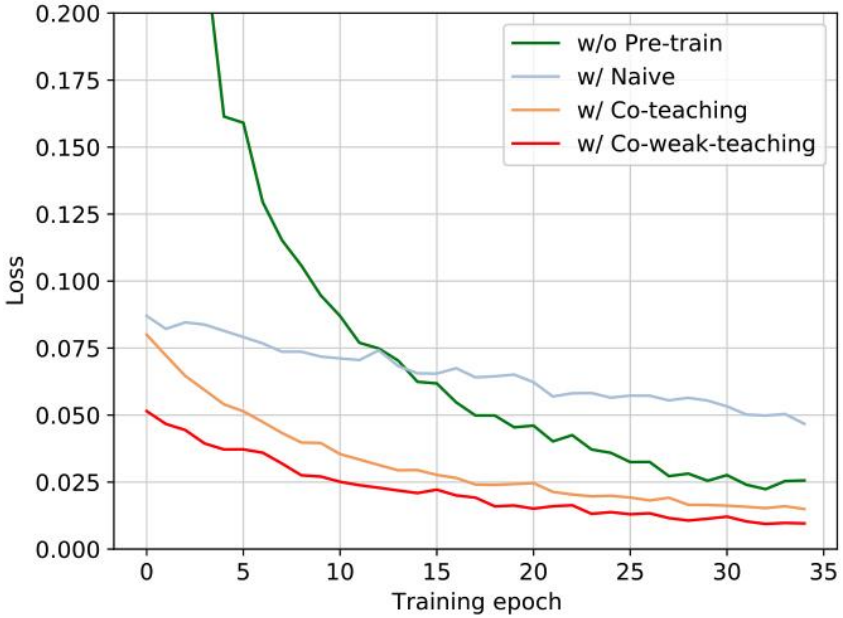
Problems & Ideas

- Problems of weakly supervised slot filling approaches:
  - Noise in weakly supervised data leads to slow convergence, and bad results.
- Ideas: Two deep neural networks are trained simultaneously. Two independent weakly labeled data are fed to these two models. Two networks are expected to have different learning abilities, and thus they can filter different types of error introduced by noisy samples.



Main Contributions

- Contributions:
  - We propose a simple and effective method, termed Co-Weak-Teaching, to combat with extremely noisy samples.
  - We conduct extensive experiments to demonstrate the effectiveness of the Co-Weak-Teaching.
  - The experimental results show the potential of learning solely from doctor responses.



The training curves of different method on the training data when models are fine-tuned on expert-annotated dataset.