



ÇANKAYA ÜNİVERSİTESİ
BİLGİSAYAR MÜHENDİSLİĞİ

MULTI LABEL CLASSIFICATION OF NEWS TEXT

Team Members

Can Koral ADALI 201411002

Bihter ÖZUÇAK 201411048

Miray PADIR 201411050

Kardelen YILDIRIM 201311060

Advisor

Prof. Dr. Erdoğan DOĞDU

Co-Advisor

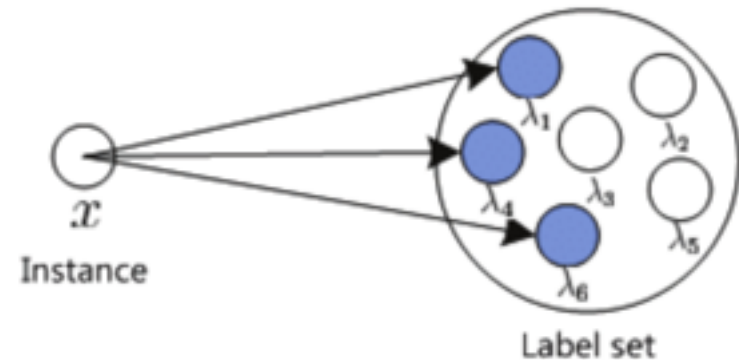
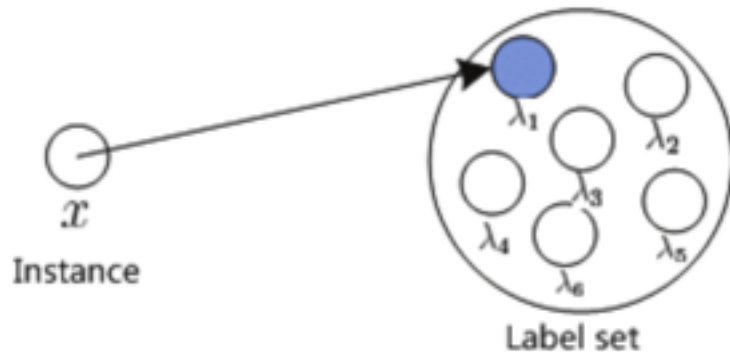
Asst. Prof. Dr. Roya CHOUPANI

PROJECT DEFINITION

A website that can multi-label the given text documents by analyzing them with deep learning methods.

- Multi-labeling the text document by given model.
- Compatible with every web browser that can run JavaScript.

Multi-class and Multi-label



Main features



- Multi-label the given text document(s) in a short time.
- Accuracy on given labels regarding success on models.
- It can analyze one or many given text documents depending on upload.

PROBLEM

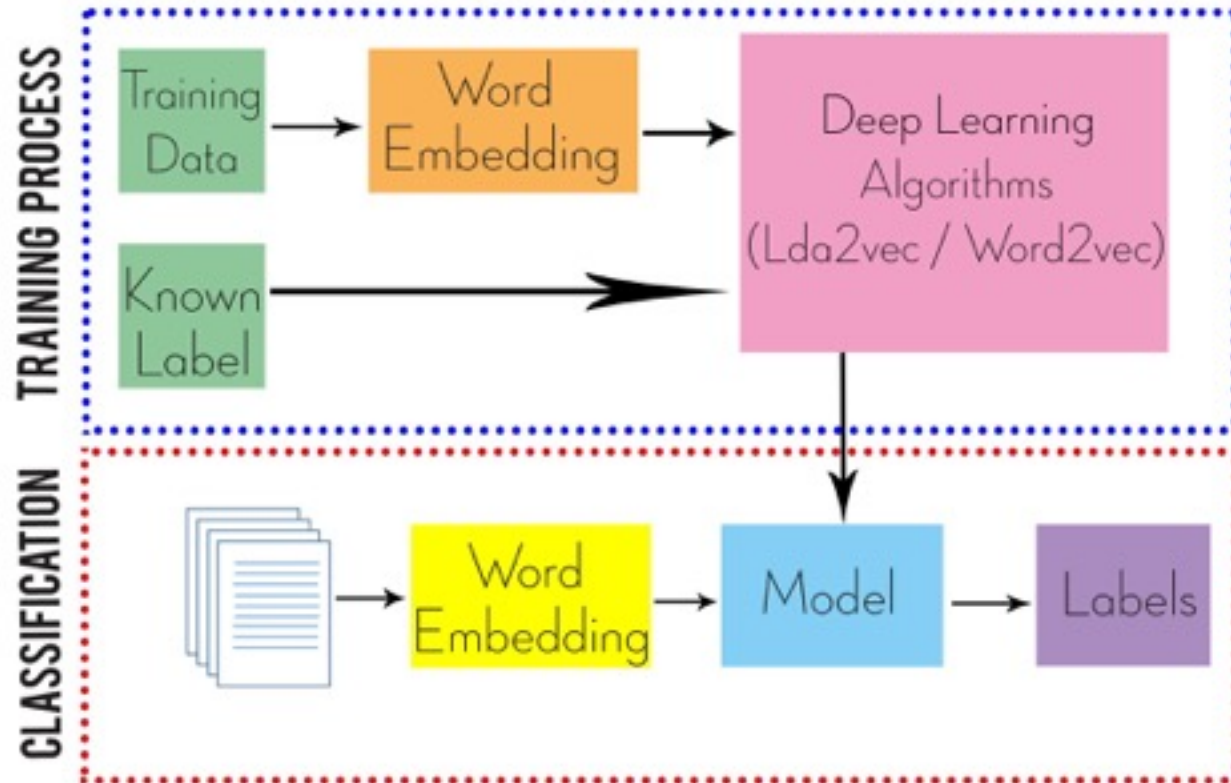


- Many digital documents everywhere over the internet.
- **Manual labeling** with subjects (labels) is difficult, even impossible.
- An intelligent tool is needed for **automatic labeling**.

METHODS & TOOLS

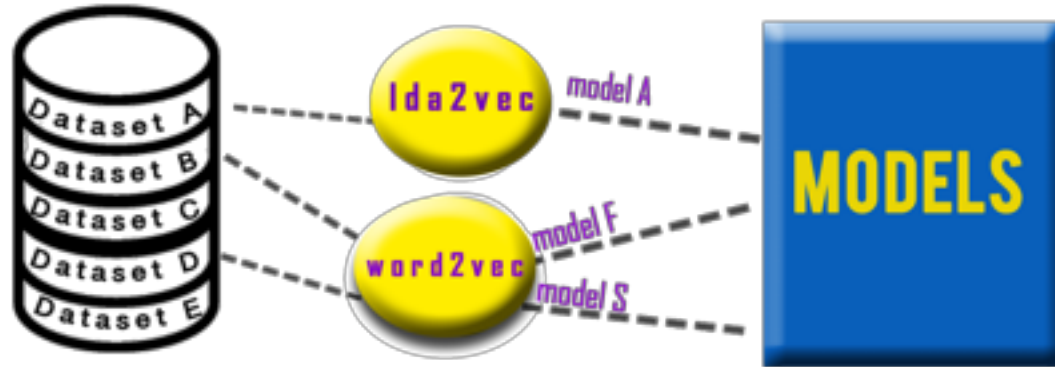
- We applied deep learning methods. Such as **Word2vec** with using **Python**.
- System used given news datasets for deep learning methods. So that, system can use it and create models.
- System tried and found the best model for the given news text document(s) so that it can give better accuracy for labels to classified document(s).

What was our proposal?





METHODS



OUR SOLUTION

- Our solution based on two processes. One of them is train model based on given datasets. The other one is using this trained models on given news text documents.
- Training is performed by using Magpie library which is using Google's, Tensorflow and Keras modelling algorithm.

REFERENCES

1. Yaghoobzadeh, Y., Kann, K., & Schütze, H. (2018). Evaluating Word Embeddings in Multi-label Classification Using Fine-grained Name Typing. arXiv preprint arXiv:1807.07186
2. A. Clare and R. D. King, "Knowledge Discovery in Multi-Label Phenotype Data," in: Lecture Notes in Computer Science. Springer, 2001.
3. Auria, L., & Moro, R. A. (2008). Support vector machines (SVM) as a technique for solvency analysis.
4. Mohammad, A. H., Alwada'n, T., & Al-Momani, O. (2018). Arabic text categorization using support vector machine, Naïve Bayes and neural network. GSTF Journal on Computing (JoC), 5(1).
5. van Meeuwen, F. W. (2013). Multi-label text classification of news articles for ASDMedia (Master's thesis).

ACKNOWLEDGEMENT

- Prof. Dr. Erdoğan DOĞDU
- Asst. Prof. Dr. Roya CHOUPANI

THANK YOU FOR LISTENING