2019 n2c2/OHNLP Shared Task and Workshop

Challenges in Natural Language Processing for Clinical Data

November 15, 2019

AMIA-affiliated workshop, Jefferson East, Washington Hilton, Washington, D.C.

8:00 AM – 8:25 AM: Light Breakfast

8:25 AM – 9:10 AM: Opening remarks

Overview and Results
Sam Henry, Ozlem Uzuner, Yanshan Wang, Feichen Shen

9:10 AM – 9:25 AM: Break

9:25 AM – 10:45 AM: Presentations: Track 1

IBM Research System at N2C2 Track 1: A Transfer Learning Approach to Clinical Semantic Textual Similarity
Diwakar Mahajan, Ananya Poddar, Yen-Ting Lin, John Prager, Jennifer Liang, Preethi Raghavan, Parthasararathy Suryanarayanan, Ching-Huei Tsou

Ensemble Deep Learning for Clinical Semantic Textual Similarity: NLM at 2019 n2c2 Shared-Task Track 1
Qingyu Chen, Alex Rankine, Yifan Peng, Zhiyong Lu

Fine-Tuned Transformer Models
Mark Ormerod, Steven Derby, Barry Devereux

The (Un)Beatable BERT in the Context of Clinical Semantic Textual Similarity
Klaus Kades, Jan Sellner, Gregor Koehler, Peter Full, T. Y. Emmy Lai, Jens Kleesiek, Klaus H. Maier-Hein

10:45 AM – 11:00 AM: Break

11:00 AM – 11:20 AM: Presentations: Track 4

Strategies in designing statistical models to identify diseases from clinical text with very small class sizes
David Burstein

11:20 AM – 12:00 PM: Presentations: Track 2, part A

Family History Extraction Using Deep Biaffine Attention
Kecheng Zhan, Ying Xiong, Dehuan Jiang, Huhao Fu, Buzhou Tang, Qingcai Chen, Xiaolong Wang

ezDI: A hybrid approach using traditional and deep learning techniques for family history extraction
Pinalkumar Patel, Vishal Panchal, Dhanachandra N., Disha Davey

~~~~~~ 12:00 PM - 1:00 PM: Lunch & poster set-up ~~~~~~

1:00 PM – 1:40 PM: Presentations: Track 2, part B

A Hybrid Model for Entity Identification and Relation Classification of Family History Information
Youngjun Kim, Paul M. Heider, Isabel R. H. Lally, Stéphane M. Meystre

Contextual Embeddings for Identifying Family History Entities
Ashwin Karthik Ambalavanan, Murthy Devarakonda

1:40 PM – 1:55 PM: Lightning talks for posters

1:55 PM – 3:25 PM: Poster session

Posters Track 1:

Using Transformer-based Approaches for Measuring Semantic Similarity
Xin Su, Timothy Miller, Farig Sadeque, Majid Afshar, Dmitriy Dligach

Combining transfer learning and structured medical domain knowledge for clinical semantic textual similarity
David Chang, Eric Lin, Cynthia Brandt, Andrew Taylor

Clinical semantic textual similarity using Transfer Learning combining Deep and Shallow Learning Techniques
Noushin Salek Faramarzi, Nikhil Siddhartha, Chaoyuan Zuo, Ritwik Banerjee

High performance sentence representations in low-resource settings
Jianlin Shi, Kelly S. Peterson, Hannah R. Eyre, Jeffrey P Ferraro, Scott L. DuVall, Olga V. Patterson

NAIST: Three approaches for Clinical Semantic Similarity
Faith Mutinda, Sumaila Nigo, Daisaku Shibata, Shoko Wakamiya, Eiji Aramaki

Unsupervised Text Similarity
Clint Cuffy, Sam Henry, Bridget T. McInnes

Posters Track 2:
Deep Neural Networks for Family History Information Extraction
Texuan Wu, Karin Verspoor

Family and Observation Entity Recognition Evaluation with FLAIR, BERT and RoBERTa
John D. Osborne, Alex Zotov

Posters Track 3:
A Hybrid approach for Medical Concept Normalization
Pinalkumar Patel, Nehal Shah, Vishal Panchal, Pratik Mangukiya, Disha Davey, Raxit Goswami

A Cascading Approach for Clinical Named Entity Recognition
Monica Agrawal, Chloe O'Connell, David Sontag

Multistage Medical Concept Normalization for Clinical Narrative Text
Youngjun Kim, Paul M. Heider, Stéphane M. Meystre

Combining String-based and Embeddings-based Methods for Medical Concept Normalization
Mohamadou Ba, Robert Bossy, Pauline Brunet, Louise Deléger, Hicham El Boukkouri, Olivier Ferret, Arnaud Ferré, Thomas Lavergne, Claire Nédellec, Pierre Zweigenbaum

NIH-CMU at n2c2 Track 3: Analyzing multistage normalization with matching and concept embeddings
Denis Newman-Griffis, Luke Breitfeller, Guy Divita, James Fiacco, Eric Fosler-Lussier, Carolyn Rose

Experiments with Pre-Trained Deep Neural Language Models for Clinical NLP: Concept Normalization and Semantic Similarity
Andriy Mulyar, Elliot Schumacher, Masoud Rouhizadeh, Mark Dredze

Contrasting n-gram matching and ClinicalBERT to enhance medical concept normalization
Brian Hur*, Yuxia Wang*, Timothy Baldwin, Karin Verspoor -- (*contributed equally)

Semi-supervised and contextualized normalization through self-training
Perceval Wajsburt, Xavier Tannier

Traditional regression models with the use of clinical entity identifiers and pre-trained contextual embeddings
Afsheen Hatami, Amirreza Shirani, Maria J. Martin-Bautista, Thamar Solorio

Integrating semantic features for clinical concept normalization
Qin Zhang, Yuzhen Bai, Jingqi Wang, Yaoyun Zhang

3:25 PM – 4:45 PM: Presentations: Track 3

TTI-COIN at n2c2 2019 Track 3: Neural Medical Concept Normalization with Two-Step Training
Tomoki Tsujimura, Noriyuki Mori, Masaki Asada, Makoto Miwa, Yutaka Sasaki

KP-MI-NEN System for n2c2 Track-3: Exact dictionary look-up
Manabu Torii, Naqi Khan, Son Doan, Peter W. Li, Daniel S. Zisook

UArizona at the 2019 N2C2 Shared-Task Track 3 Concept Normalization: a Hybrid System of Lucene Searcher and BERT-based Reranker
Dongfang Xu, Manoj Gopale, Jiacheng Zhang, Steven Bethard

Clinical Concept Normalization with Hybrid NLP System Combining Multi-level Matching and Machine Learning Features
Long Chen, Yu Gu, Zhiyong Sun, Haodan Li, Enyu Li, Li Jiang, Yuan Gao, Yang Huang

4:45 PM – 5:00 PM: Break

5:00 PM - 5:45 PM: Discussion and Closing Remarks
Sam Henry, Ozlem Uzuner, Yanshan Wang, Feichen Shen