KEYNOTE SPEAKERS
AND ABSTRACTS

Prof. Iryna Gurevych

Full Professor and Head of the UKP Lab, Technical University Darmstadt, (Germany)

Talk: Detect – Verify – Communicate: Combating Misinformation with More Realistic NLP

Dealing with misinformation is a grand challenge of the information society directed at equipping the computer users with effective tools for identifying and debunking misinformation. Current Natural Language Processing (NLP) including its fact-checking research fails to meet the expectations of real-life scenarios. In this talk, we show why the past work on fact-checking has not yet led to truly useful tools for managing misinformation, and discuss our ongoing work on more realistic solutions. NLP systems are expensive in terms of financial cost, computation, and manpower needed to create data for the learning process. With that in mind, we are pursuing research on detection of emerging misinformation topics to focus human attention on the most harmful, novel examples. Automatic methods for claim verification rely on large, high-quality datasets. To this end, we have constructed two corpora for fact checking, considering larger evidence documents and pushing the state of the art closer to the reality of combating misinformation. We further compare the capabilities of automatic, NLP-based approaches to what human fact checkers actually do, uncovering critical research directions for the future. To edify false beliefs, we are collaborating with cognitive scientists and psychologists to automatically detect and respond to attitudes of vaccine hesitancy, encouraging anti-vaxxers to change their minds with effective communication strategies

KEYNOTE SPEAKERS AND ABSTRACTS

Dr. Hassan Sawwaf

Founder of aiXplain, inc, Los Gatos, California, (USA)

Talk: Benchmarking as a Driver for Innovation

Arabic Speech and Language Processing in the last 20 years has achieved great results that enabled new and exciting applications. To enable further acceleration, we will need to increase collaboration across teams and organizations. At the heart of this is benchmark, which includes alignment over task definitions, metrics and finally diagnostic benchmarks. Benchmarking benefits from the broad engagement of diverse stakeholders (academia, industry and policy makers). Hassan will draw parallels from past projects with DARPA that were the drivers of today's state of NLP, and sketch out a model that will help the Arabic Speech and NLP community to continue raise the bar to drive the state of the art.

KEYNOTE SPEAKERS AND ABSTRACTS

Prof. Nizar Habash

Professor of Computer Science, New York University Abu Dhabi

Title: Gender Bias in Arabic Machine Translation

Gender bias in natural language processing applications, particularly machine translation, has been receiving increasing attention. For example, the English sentences "I am a doctor" and "I am a nurse" are translated automatically to Arabic as "أنا طبيب" (I am a [male] doctor) and "أنا ممرضة" (I am a [female] nurse). Much of the research on this issue has focused on mitigating gender bias in English models and systems. In this talk, we discuss the various interlocking sources of bias in machine translation, and specifically consider Arabic and gender. We also present a set of solutions that include a newly developed first-of-its-kind corpus for modeling gender in Arabic, and a system for gender rewriting of machine translation output to match user needs.

KEYNOTE SPEAKERS AND ABSTRACTS

Prof. Tim Baldwin

MBZUAI (Associate Provost and Head of NLP Department) and Melbourne Laureate Professor in the School of Computing and Information Systems, The University of Melbourne (Australia)

Title: Fairness in Natural Language Processing

Natural language processing (NLP) has made truly impressive progress in recent years, and is being deployed in an ever-increasing range of user-facing
settings. Accompanied by this progress has been a growing realisation of inequities in the performance of naively-trained NLP models for users of
different demographics, with minorities typically experiencing lower performance levels. In this talk, I will illustrate the nature and magnitude of the problem, and outline a number of approaches that can be used to train fairer models based on different data settings, without sacrificing overall performance levels.

COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

KEYNOTE SPEAKERS
AND ABSTRACTS

Prof. Eduard Hovy
Language Technology Institute, Carnegie Mellon University (USA)

Title: On Explanation for AI

AI systems of all kinds will increasingly influence human life, including medical diagnosis, self-driving cars, robot manufacturing, job and credit card application decisions, news targeting, etc. When they make mistakes society will want to know who to blame. AI systems must be able to explain their reasoning in terms that people can understand and that system builders can use to change system behavior. At present, the best AI machine learning systems are deep neural networks and large language models whose 'explanations' are deeply inadequate, at best. This talk lists desiderata for socially acceptable explanations and describes several attempts to meet them when using deep neural networks.

KEYNOTE SPEAKERS
AND ABSTRACTS

Dr. Sanjay Chawla

Research director of Qatar Centre for Artificial Intelligence (QCAI), Qatar

Title: Big Data: Going Beyond Predictions

Recent successes in AI can be attributed to the fact the supervised learning in static prediction tasks is a solved problem. However, predictions on their own are not sufficient for decision making. Here we show that prescriptive learning provides a more appropriate framework for data-driven decision making. We will give two examples from our own work: reinforcement learning for air cargo management and traffic signal coordination, where tangible progress has been made.