Knowledge-Driven Analytics Impacting Human Quality Of Life

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Abstract

The theme of this workshop is knowledge-driven analytics and systems that will attempt to ensure positive influence to society and quality of life. The likely areas are: managing and analysis of knowledge for human mental and physical health condition improvement, maximizing the benefits of social network interactions while minimizing the ill-effects, assisting human decision making in financial domain, controlled social network foot-printing, behavioral understanding and subsequent necessary action recommendation, ensuring personal data privacy preservation, as well as attempting to address few pertinent questions: How will I be alerted before a devastating financial decision? How can a doctor be given augmented knowledge on diagnosis? All of us are different. Why we are not given personalized treatment instead of average case treatment plan? How can we use big data and knowledge mining for developing sustainable societies by optimizing energy, waste and perishable resource management? How to prevent privacy breach? And many others.

1 Focus

The main focus of this workshop is to bring proposals and insights that demonstrate the knowledge-driven technologies, developments, applications for ensuring improvement of human quality of life. The impact would be micro-level, where human life is impacted in daily basis and at macro-level where human life would be impacted in long term that eventually influences the betterment to human society.

2 Objective

The prime objective of this workshop is to bring forward the applications and technologies that through knowledge-driven analytics bring positive outcomes to the human life and to the world at large. For example, knowledge-managed learning techniques have the capability of providing robust prediction of medical condition, automated summarization, report generation, minimization of diagnosis error, enabling remote disease screening. It can predict the suicidal trend or state of depression from analyzing Facebook posts, tweets or recent posted images. Prediction of psychiatric disorders like schizophrenia, which physicians find difficult to anticipate would have immense impact on millions of human life. Traditional coarse evidence driven medical treatment needs to be more precise and personalized. Big data and availability of vast information invite severe data privacy attacks which can potentially ruin one's life and reputation. One of the challenging applications is the controlled release of private data without compromising the beneficial influence, prediction and subsequent prevention of cyber-attacks and privacy breach incidents. Knowledge-driven analytics will restrict an individual to venture into risky investments, traps of false social requests.

The goal of this workshop is to inculcate the realization of long-term co-existence of human-life with big data, artificial intelligence and deep analytics. Powerful tools, applications and ever-increasing knowledge sources will drive human life, its micro and macro conditions for augmenting the human capabilities, minimizing the nuisances of infiltratory technologies and overall betterment of human experiences.

We expect researchers in the field of knowledge management, artificial intelligence, data mining, privacy analytics will provide insights of technological

aspects as well as application-specific scenarios of knowledge.

3 Relevance

We are at the crucial juncture of welcoming the knowledge-driven management of our life. The theme of CIKM 2018 “From Big Data and Big Information to Big Knowledge" is appropriately aligned to the objective and goal of the workshop and rightly conveys the message of apparent arrival of inflection point of big data analytics based industry solutions and research outcomes. Knowledge-driven technologies and applications for improving human quality of life will potentially enable long-term human-centric convergence of futuristic applications. CIKM 2018 will provide the platform to the researchers engaged in developing, implementing computational models and analysis of such applications and technologies to present their works, interact with fellow researchers and gain ideas.

Many researchers from academia, industry and start-ups are engaged in developing knowledge-driven intelligent systems and applications like prediction of medical condition from healthcare data, developing the intelligent physical, emotional and mental diagnosis systems, detecting incoherence human decisions and actions, personalization of drug administration and treatment, forecasting financial fraud or opportunities, advising personalized retail and financial decision recommendation, deep learned systems, alert systems for social networking misuse, proactive identification data privacy breach. Such researchers and industry persons would be interested to participate in this workshop. This workshop will promote collaboration and discussion among scholars from the domains of machine learning, knowledge management and engineering, data science, bio-informatics, data privacy and data security, and related others.

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