Internet of things (IoT) connects individuals and physical devices which form the foundation and provides ground-truth information. Today’s data-driven world aims at collecting, storing, and processing data to discover and generate new information. Digital footprint is everywhere, there are numerous examples in our daily life like using smart phone, browsing the web, and indeed reading this editorial preface. Besides data availability supported by IoT, recent development of cloud computing, fog computing, edge computing, and 5G mobile communication turn big data becomes consumable. The core component that leads to success is data science mindset.

Data Science is an emergent and inter-disciplinary field that incorporates scientific methods, processes, algorithms, and systems to bring insights and impact from heterogeneous data. Differed from traditional data engineering and analytics, data science focuses on data optimization, advanced artificial intelligence techniques, and decision making with scientific and research manners. Examples of applications are predicting future polarity of an event in social media and predicting reasoner performance.

We would like to share a list of practice advice to bring amazing impact using data science concept in response to the data explosion era:

- Relevant and high-quality data must be guaranteed as the ground-truth of information. Always check if there is missing data and noisy data along with the evaluation on whether it lowers the robustness and reliability of data model and final decision. Data preprocessing techniques could be applied to fill-up the missing values and filter noise level;
- Different level of data granularity may drive different insights. It is suggested to confirm the goal setting as granular data may not always necessary but increases the cost of data transmission and storage. If granular data is desired, the design of the architecture of the data pipeline must be scalable;
- Merging heterogeneous datasets is challenging but impactful idea. It allows exponentially growth of training data because data can be shared and utilized all over the world. Deep learning model can be applied on big data problem to maximize the performance;
• Data exploration could be interesting or boring depending on our mindset. There exist both trivial applications and complex research problems. If we are given a challenging dataset, it is a good start because we could formulate the research problem into subproblems and may consider each subproblem using various angles and hypotheses. In addition, the level of difficulty and depth of the project may form the base of the research funding proposal;
• Structured thinking skill ensures structuring the problem and solving by data science. Macroscopically, we use system flowchart as the design of operation flow. It could identify areas which need in-depth understanding and analysis. Without structured thinking, addressing scattered tasks may not yield convergent solution;
• Getting started with certain applications could be an opportunity to practice the concept of data science. Purely theoretical work aims at proposing a general method that achieves fair performance in most of the applications. Applied research towards specific problems requires good problem understanding, plan and customized methodology to obtain optimal solution. Social media, energy, healthcare, and education are typical examples of hot topics;
• Being able to interpret the results is essential because you are the most suitable person to explain your work. It needs both good understanding on the nature of the problem and its implications. Therefore, thorough literature review in both research and commercial sectors should be carried out in advance.

We are delighted to deliver the latest issue of IJSWIS 16(3) with the support and contribution from international researchers. This issue is a manifestation of seven interesting and important articles that cover covering complementary facets of the innovation algorithms and applications in the fields of semantic web and information systems. Articles include (in the order of article number):

1. LinkZoo: A Collaborative Resource Management Tool Based on Linked Data;
2. Secure Timestamp-Based Mutual Authentication Protocol for IoT Devices Using RFID Tags;
3. The Effect of Gender, Age, and Education on the Adoption of Mobile Government Services;
5. Advanced Learning Analytics in Academic Education: Academic Performance Forecasting Based on an Artificial Neural Network;
6. Research Synthesis and Thematic Analysis of Twitter Through Bibliometric Analysis;
7. CustNER: A Rule-Based Named-Entity Recognizer With Improved Recall.

We sincerely invite researchers to contribute research articles and share review comments to IJSWIS. We are grateful for your continued support.

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