



## Editor's Desk

G. K. Ananthasuresh\*

*Machine Learning*, for a mechanical engineer like me, suggests something that is very different from what it ought to signify today. We teach how machines work and students learn just that. However, those are not the machines we are concerned with in this issue.

Computers, in all their shapes and sizes, without any moving parts other than the data-storing disk that spins and a fan that keeps things cool, are the endearing and pervasive *machines* in question. These machines are learning and they are doing so at an unprecedented pace, changing the way things work, the way we do our research, and the way we live. The underlying driver for this gargantuan change is data, *Big Data*. Learning by the machines is apparently not shallow and perhaps that is why it is called *Deep Learning*.

As we browse the papers in this issue, we also see that machine-learning concepts are not as simplistic as the words that describe the key terms. Gone are the days when classical languages, Greek and Latin in particular, formed the basis to coin new scientific and technological terms. Simple conversational English is good enough today. For instance, NER (Named Entity Recognition) and BIO (Begin-Inside-Outside), two acronyms used in a paper of this issue, would have surely been intimidating if they were to be single words with Greek or Latin inflexions. Nowadays, fortunately or unfortunately, there is no need to coin new compound words to convey profound implications. Therefore, we have machine learning, big data, data science, deep learning, supervised learning, deep belief network, and so on.

In one of the papers in this issue, Tarun Kumar and his co-authors make the case for using simple language. They remark, "We hope the colloquial tone of this article would make it a pleasant read for understanding the theoretical

as well as experimental aspects of the work." Everyday, language makes high-profile research accessible to all. However, does a string of simple words rigorously connote the precise meaning as a carefully crafted single word could do? Therefore, what is it for "machine learning" or "data science"? I wonder.

For the uninitiated who want to learn about a new field, vocabulary and acronyms are the first impediments. Keeping this in mind, this journal's format has wide margins to define key terms and the jargon of the field. This multidisciplinary reviews journal is meant not only for insiders, but also for outsiders. Therefore, when I enquired about the lack of margin notes, the Guest Editor of this issue, Prof. Chiranjib Bhattacharyya, said that there was no need for them, as most of the words used in the paper are easily understood. He is mostly right. But then, I found terms like these: *Stochastic gradient descent*, *convex Lipschitz functions*, *principal component analysis*, *conditional random fields*, *restricted Boltzman's machines*, and so on. You can always google them, one would say. When anything you want to know is on the internet, all information is literally at our finger tips.

I thank Prof. Bhattacharyya for his efforts in making this issue possible and all authors for the time and effort they put into write lucid state-of-the-art reviews, so that we can learn about machine learning.

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Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Received: 8 April 2019 Accepted: 11 April 2019  
Published online: 24 April 2019