How Advances in Deep Learning is Changing How We Solve Problems

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ABSTRACT:

Deep Learning is one of the most sought after topics in both research and applications. Building large-scale computing systems for deep learning is non-trivial, which requires understanding of data science, modeling, and distributed computation techniques. Google AI and Google Brain teams have applied many of these ideas to many Google products. Thanks to Google's open-sourced TensorFlow system and platform, many researchers and practitioners are now able to quickly experiment, evaluate, and deploy large-scale machine learning models and systems to address these problems in products, as well as other challenging problems faced by the society.

In this talk, I will highlight some of the recent advances in this space, and how it is addressing some of the most pressing challenging problems. In particular, I will highlight some of my own experiences in applying machine learning to optimize user experiences in Google products. Understanding users and optimizing for user experience are critical parts of building successful apps and services. While there had been a tremendous amount of past work studying user interactions, in practice, it wasn't until quite recently that researchers are able to optimize these interaction mechanisms easily. In this talk, I will illustrate AI-driven and ML-driven approaches to optimize for happy engaged users. Specifically, I will present case studies of how we utilize novel machine learning techniques to optimize for long-term user engagements in practice.