

Teaching Machines - Deep Learning and Online Education

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ABSTRACT

We live in a time where people can freely access high quality video lectures, how-tos, journal articles, books with a click of a button. Our education can no longer be said to mostly comprised of what we learned in school. New technologies have pushed us to learn new things we may on the fly and such motivated individuals find themselves online watching lectures about programming, complex systems, neuroscience, deep learning or a how-to in order to write an article or to better understand the world they are living in. But yet, most of what we watch or read on the web, goes unnoticed and

1. INTRODUCTION

Let's start with a future view of one's education. Let us imagine that all of what we have learned online, from the hundreds of Youtube videos, Wikipedia articles, and Nature papers we've read/watched/ or listened to on the web, were consolidated into what we might call a digital education fingerprint.

Since many of us, especially those who have moved industries or occupations, have done so by learning online. It is plausible, that our digital education footprint learned Imagine that if you signed up for a job, your primary consideration and also your digital education could be conveyed as a path through the web that others attempt to follow or mix and match. Now let us imagine a world where our digital education fingerprint allowed us to

2. CONCEPTS

2.1 Digital Education Footprint

2.2 DIKW

2.3 Deep Learning

that which is outside of our formal education, was somehow sewn together into a imagine that our education could b of all the content we consume, we had truly learned well.

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2.4 Part I - Rethinking education

E2QA - a theoretical neural network architecture to generate questions and answers from video.

2.5 Part II - Address the concerns

There are 3 popular concerns that I will attempt to address in this article about online learning in the present and the future. - The first concern is that the learning is often passive, - The second concern is that the information remains untested and therefore doesn't truly make the leap from information to true knowledge. The third concern is that even if the two concerns above were met definitively, it would not be possible to .

I will address each of these concerns by showing that recent deep learning advances could be combined to address all 3 concerns definitively

2.6 Part III - Supporting theories for deep learning

Theory of the learnable Mutual Information Joint probability

2.7 Part IV - Survey of empirical results

RNN / CNN VQA Encoder/Decoder

2.8 Part V - Call to action

2.9 Part VI - Evaluation

3. CONCLUSION

References

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- [2] Meier, R. 2012. *Professional Android 4 Application Development*. John Wiley & Sons, Inc.