What can we see in deep learning black boxes?

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Senior Lecturer at Bar Ilan University. Working on NLP. Recently with Neural Nets. Published a book about it. http://www.cs.biu.ac.il/~yogo/
Jun 9, 2017 · 14 min read

An Adversarial Review of "Adversarial Generation of Natural Language"

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Language IS complicated

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...human language is magnificent, and complex, and challenging. It has tons of nuances, and corners, and oddities, and surprises. While natural language processing researchers, and natural language generation researchers, and linguists! who do a lot of the heavy lifting, made some impressive advances towards our understanding of language and how to process it we are still just barely scratching the surface on this.

NLP has its problems

Problems and challenges

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► sometimes research success depends on computational power:
  ► '...do we have enough GPUs?'

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- The overwhelming majority of papers are empirical today.

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- ► The overwhelming majority of papers are empirical today.
- ► No final answer yet.

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- Linguistics can help reduce the search space;
- It can provide inductive biases (linguistic scaffolding).
- Even the strongest proponents of purely data-driven approaches acknowledge it;
- Linguistic structures induced into machine learning systems reduce search space, bringing improvements [Dyer, 2017]:
  - language is inherently hierarchical –> syntactic recency is a preferable inductive bias to sequential recency.
- Language is not just sequences of words / characters / bytes.

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