



Bloomberg



NLP<Go>

BETTER RESEARCH THROUGH
BETTER TOOLS



Bloomberg

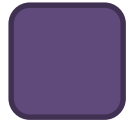


Overview BRAIN





Bloomberg



- Motivation, what is broken?
- In essence;
- For researchers;
- For practitioners;
- For all;
- What happens next?



Bloomberg

Overview

This talk



How does a human *solve* problems?



When faced with a problem, humans tend to draw on past experience to break down the situation into components that are well understood, and that have been encountered before.



We want to make use of the most salient representation of the most salient information in order to make a decision that is as close as possible to the optimal one, given our objectives.



If possible, we should question our goals, our assumptions, our conclusions, the representations used, and the answer that we generate.





Bloomberg

Motivation

What is broken?



The research landscape.



Recently, we surveyed research papers that we had tried to replicate in the past several years.



- Did we replicate the results?
- Could we explain any differences, with the authors' help?
- How long did it take to perform the experiments with openly available resources (code, data, models)?



It's a small sample, so the findings are anecdotal at best, but they are indicative of a broad sentiment in the research community.



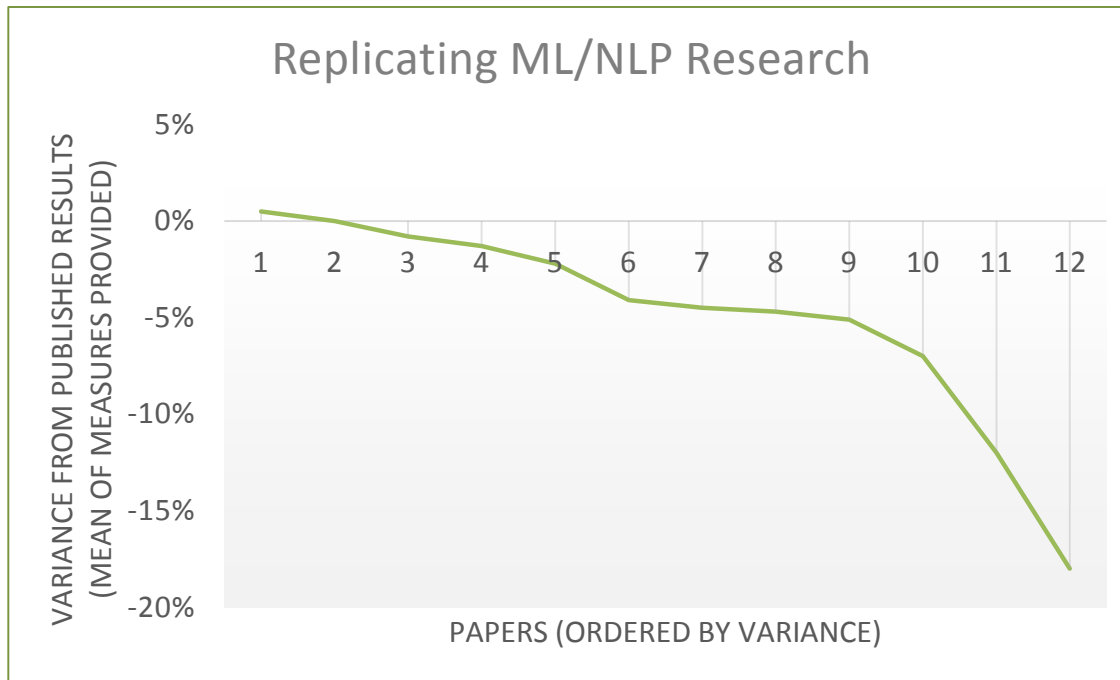
Bloomberg

Motivation

What is broken?



The research landscape.



It is rare that we are able to replicate published results.



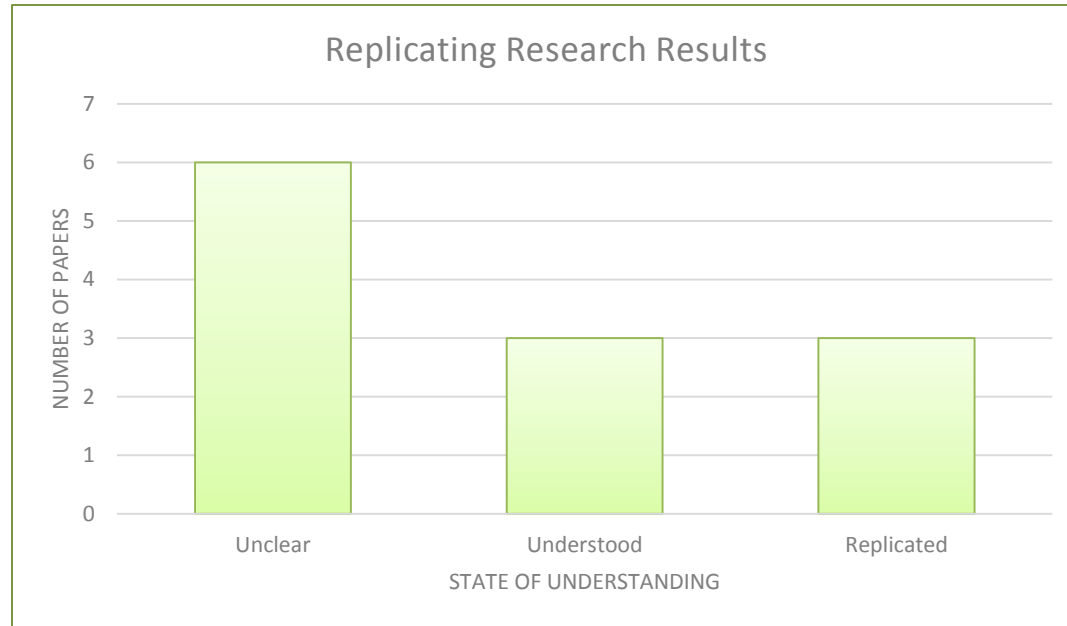
Bloomberg

Motivation

What is broken?



The research landscape.



With the authors' help we are able to understand the differences from what is published roughly 50% of the time. Only in three instances were we able to almost replicate.



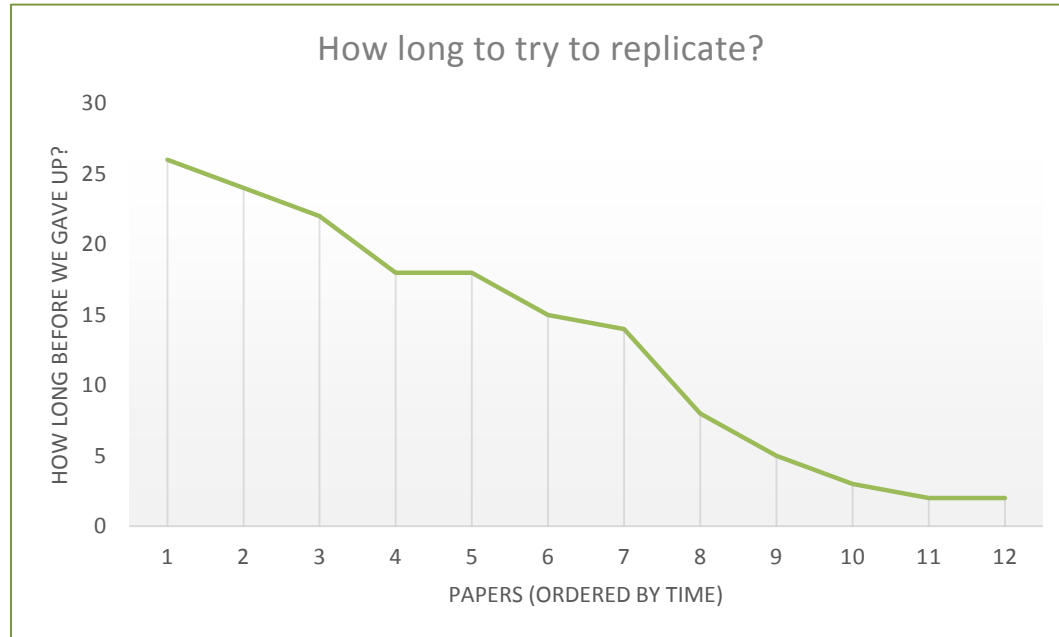
Bloomberg

Motivation

What is broken?



The research landscape.



**It should be easy to replicate the available research work,
and to spend time building on top of it!**



Bloomberg

Motivation

What is broken?



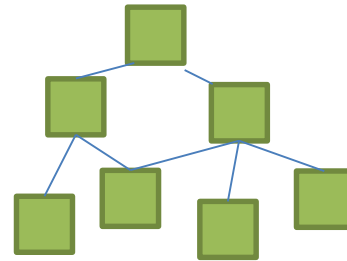
Our core mission.



How can we help the AI community move ahead at full steam?



- Reproducibility;
- Extensibility;
- Measurability;
- Usability;
- Sharing;



Research is compositional, experimental, and lives in an environment of constant innovation. We need to nurture that in order to stand “on the shoulders of giants”.





Bloomberg

In Essence
What is NLP<Go>?



NLP<Go>.



A robust, scalable set of C++ libraries for efficiently building and experimenting with algorithmic tasks in Artificial Intelligence, with particular focus on NLP.



- Hierarchical algorithmic dependencies—modular;
- Simple, clean multi-lingual interfaces—easy to use;
- Expressive Document Object Model—flexible;
- Pre-packed with state-of-the-art capabilities—supported;



NLP<Go> provides the well-engineered foundation to support sharing, extending, and using the state-of-the-art in AI research.





Bloomberg

For Researchers

How does it help?



Making research better.



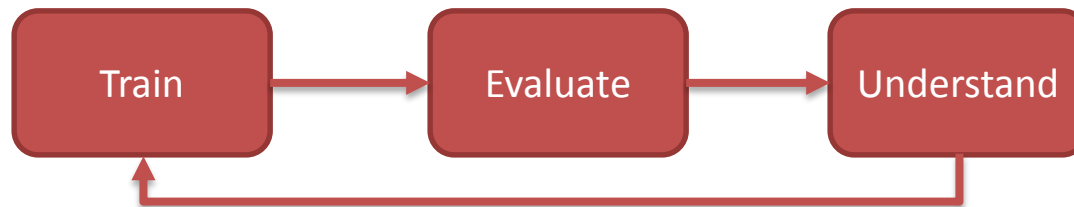
Remove bottlenecks and obstacles to the research process, and accelerate its impact wherever possible.



- A community resource for AI;
- Easily reproduce results of others;
- Easily extend and experiment with any task;
- A common evaluation platform;
- Integrate across languages and existing resources;



Address common concerns, remove the burdens to solid scientific progress!





Bloomberg

For Practitioners
How does it help?



Bridging the gap.



The best research can take years to have an impact in the world because of lack of access, transparency, and the right incentives. Provide a natural interface for the research and practitioner communities.



- One-stop shop for the state-of-the-art;
- Robust, scalable, enterprise level libraries;
 - Modular, take what you need, build anywhere;
- Provide transparency onto existing research efforts;
- Provide ongoing support and integration from top researchers and engineers;



Bridging the gap, encouraging collaboration, accelerating impact. We want to increase the pace of innovation, and get everyone excited about the possibilities!



Bloomberg

For All
How does it help?



What else can we do?



As a platform, NLP<Go> provides many opportunities to better integrate multiple community endeavors.



- Teach with NLP<Go>;
- Hack with NLP<Go>;
- Conference with NLP<Go>;



- NLP<Go> is, and will remain, open, extensible, and friendly.



BRAIN is committed to building the best framework for supporting the AI research and practitioner community. Open collaboration, transparency, and good engineering practices will ensure we develop strong foundations for innovation.



Bloomberg

Sharing
Or we all slow down.



What kind of community?



We are all working to build systems that are better able to make decisions based on the available information. Our systems are often highly sophisticated, relying on solving many sub-problems, and building on top of years of previous research.



- If sharing the scientific advancement you have achieved renders you uncompetitive and unable to survive, you may have the wrong business model;
- There are thousands of people working to solve similar problems, we need to leverage that better;
- Building on top of others' work, evaluating, extending, documenting, sharing back should be seamless.



We all benefit from having a community that solves more problems, makes it obvious what has and has not been achieved, and builds a shared vision for the future.



Bloomberg

Sharing
Or we all slow down.

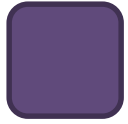


NLP <Go>

We need to build a strong community core that enables more than just dissemination. We want all of you to help us on this journey!



Bloomberg



And now...
NLP<Go>

jhodson2@Bloomberg.net
www.bloomberglabs.com