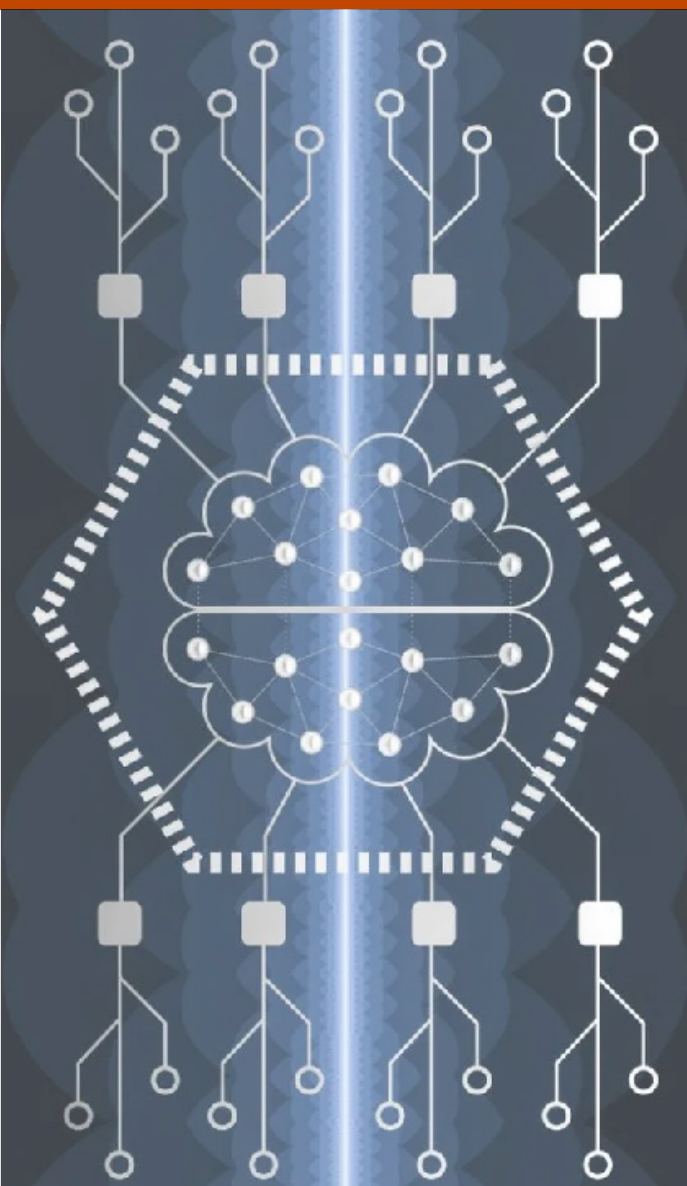


LANGUAGE & INTELLIGENCE AT MIT



The Language & Intelligence group works toward building, explaining and better understanding language models, program language and how this understanding touches many facets of intelligence.



Faculty Lead

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Research Vision

We're interested in what machine learning can do for language understanding and what language data can do for other machine learning problems. We develop tools for building systems that can learn from instructions, explain their decisions, and make human-like generalizations.

Areas of Research

- Natural language processing
- Natural language interfaces for software systems and robots
- Interpretability and transparency in machine learning tools

Research Activities

- Learning from language: Much of humans' abstract knowledge comes from abstract descriptions, but almost all machine learning research focuses on learning from comparatively low-level demonstrations or interactions. How do we enable more natural and efficient learning from natural language supervision instead?
- Interpretation and explanation - How can we help humans understand the features and representational strategies that black-box machine learning algorithms discover? To what extent do these strategies reflect abstractions that we already have names for?

Industry Applications

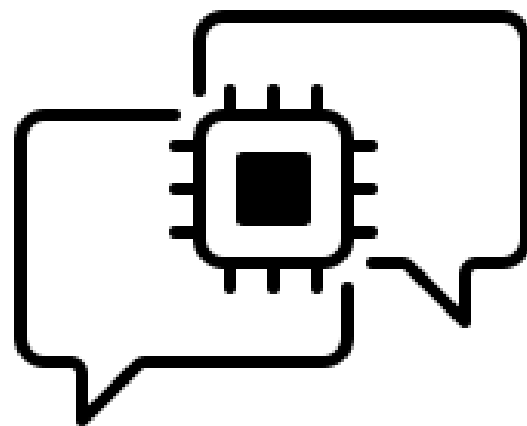
- Conversational interfaces
- Text analytics
- Explainable AI

In the News

- A new study by a team of researchers at MIT, MIT-IBM Watson AI Lab, and DeepMind shows the promise of merging statistical and symbolic AI. Read at [MIT NEWS](#)
- [Leveraging language to learn program abstractions and search heuristics](#). Catherine Wong, Kevin Ellis, Joshua B. Tenenbaum and Jacob Andreas. ICML 2021
- [Implicit representations of meaning in neural language models](#). Belinda Z. Li, Maxwell Nye and Jacob Andreas. ACL 2021.

"I want to give people the ability to use natural language to solve all the problems we currently solve with programming languages."

Jacob Andreas, MIT CSAIL



Faculty

Jacob Andreas

PhD Students

Ekin Akyürek
Evan Hernandez
Athul Paul Jacob
Belinda Li
Pratyusha Sharma

MEng Students

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