



# How Mergeflow Uses Machine Learning

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Currently, Mergeflow uses machine learning technologies for various aspects of data capture and analysis. In the future, we will also use machine learning for more direct user assistance.

 = currently supported by machine learning.

 = will be supported by machine learning in the future.

### People, Organizations, Financials, Topics from Text

Machine learning helps Mergeflow find people and other entities, including never-before-seen ones.

Mergeflow uses machine learning for discovering market data (segments, sizes, growth) and investment events from text.

Based on semantic models, Mergeflow assigns contents to topics. We use patent classes as topics.

### Signal vs. Noise

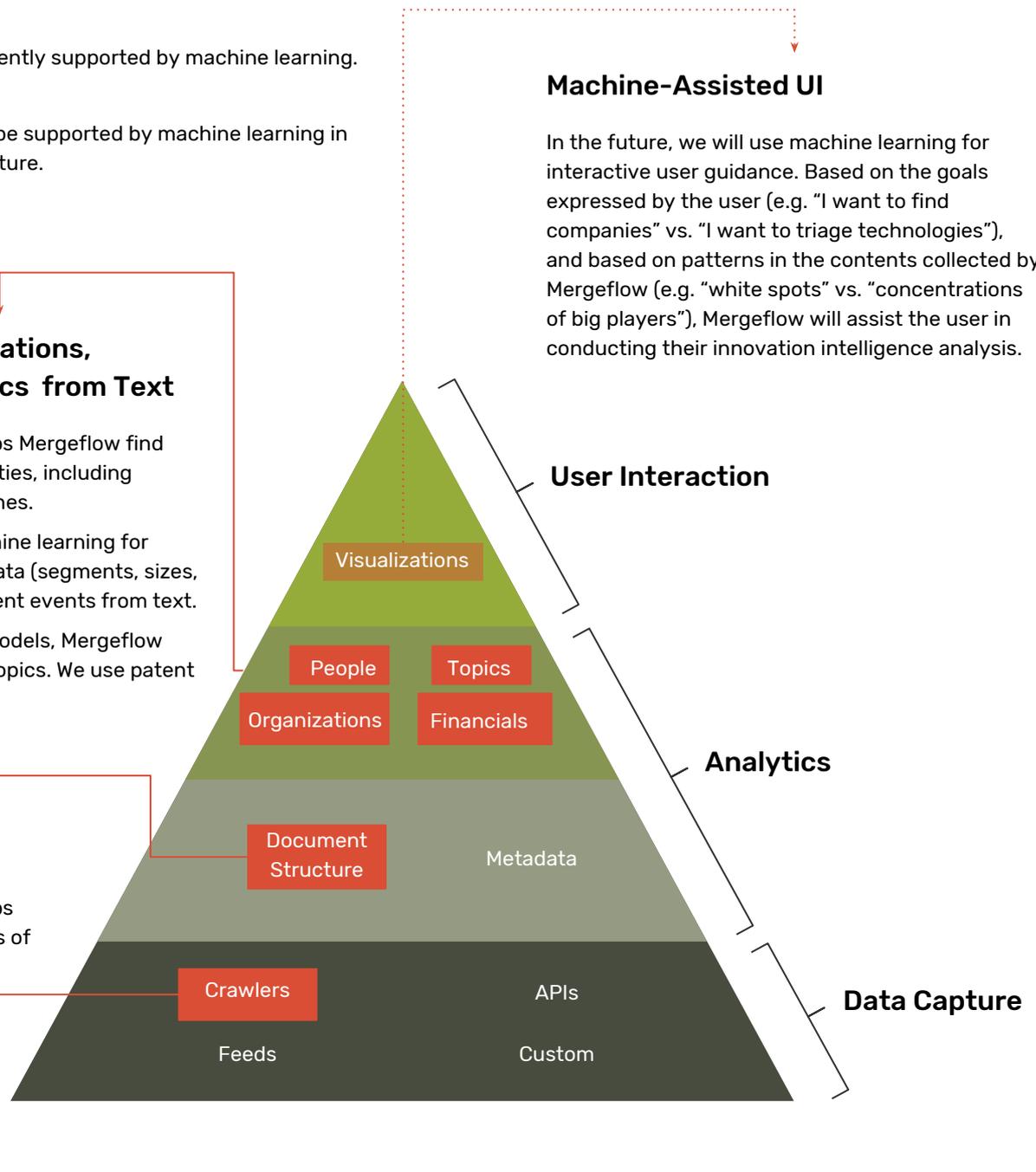
Machine learning helps identify relevant parts of a document vs. noise (e.g. teasers).

### Smart Information Capture

Based on the structure of a website and other criteria, Mergeflow decides which pages of a website to crawl.

### Machine-Assisted UI

In the future, we will use machine learning for interactive user guidance. Based on the goals expressed by the user (e.g. "I want to find companies" vs. "I want to triage technologies"), and based on patterns in the contents collected by Mergeflow (e.g. "white spots" vs. "concentrations of big players"), Mergeflow will assist the user in conducting their innovation intelligence analysis.



## Some Recommended Readings on Machine Learning

We think that a fact-based and de-hyped conversation about machine learning and related technologies is crucial to the success of any operation in this area. This is why we put together some machine learning books, papers, and resources on the web that we have found relevant and interesting. Each recommendation has a short comment.

### Books

**Manning & Schütze (1999). Foundations of Statistical Natural Language Processing.** Great classical textbook on statistical NLP.

**Mitchell (1997). Machine Learning.** Indispensable.

### Papers

**Lei, Barzilay, Jaakkola (2016). Rationalizing Neural Predictions.** How does a neural network make decisions?

**Mikolov, Chen, Corrado, Dean (2013). Efficient Estimation of Word Representations in Vector Space.** Very interesting approach to representing word meanings.

### Resources on the Web

**AI Index, 2017 Annual Report.** <https://aiindex.org/2017-report.pdf>. Very good high-level overview of the current state of AI.

**Chris McCormick's Machine Learning Tutorials and Insights.** <http://mccormickml.com/>. Excellent hands-on tutorials on machine learning.

**Rodney Brooks' Blog.** <https://rodneybrooks.com/blog/>. Infusing facts into the conversation about AI.

## About Mergeflow

Mergeflow builds and operates innovation intelligence solutions that combine self-learning technologies with advanced computing power to provide unique insights. We help individuals and teams that operate at the intersection of business and R&D.

Mergeflow customers operate in and across diverse industry sectors, and include global technology leaders such as Bayer, BASF, Beiersdorf, BMW, Covestro, Philips, Siemens, thyssenkrupp, and others.