



# Artificial Intelligence: Separating the Hype from Reality

Robbie Allen

# Introduction



**ROBBIE ALLEN**

*Chief Executive, Infinia ML & Chairman, Automated Insights*



# Why We Are Different



**Mike Salvino**  
Executive Chairman



**Robbie Allen**  
Chief Executive



**Larry Carin, Ph.D.**  
Chief Scientist



**Ricardo Henao,  
Ph.D.**



**Ya Xue, Ph.D.**



**Hongteng Xu, Ph.D.**



**Jun Liu, Ph.D.**



**Ikenna Odinaka, Ph.D.**

**35**

Patents Granted

**11**

Books

**7**

Ph.D.s

**Over  
550**

Published Papers

# Quantifiable Business Impact

Reduced  
Costs



Increase  
Efficiency



Achieve  
Breakthroughs



Even if all new machine learning innovation stopped today, the business world would take a decade to digest all that could be done with today's technology.

## ARTIFICIAL INTELLIGENCE

Machine Learning

Natural Language Processing

Computer Vision

Expert Systems

Robotics

Planning

Supervised Learning

Unsupervised Learning

Transfer Learning

Reinforcement Learning

And More . . .



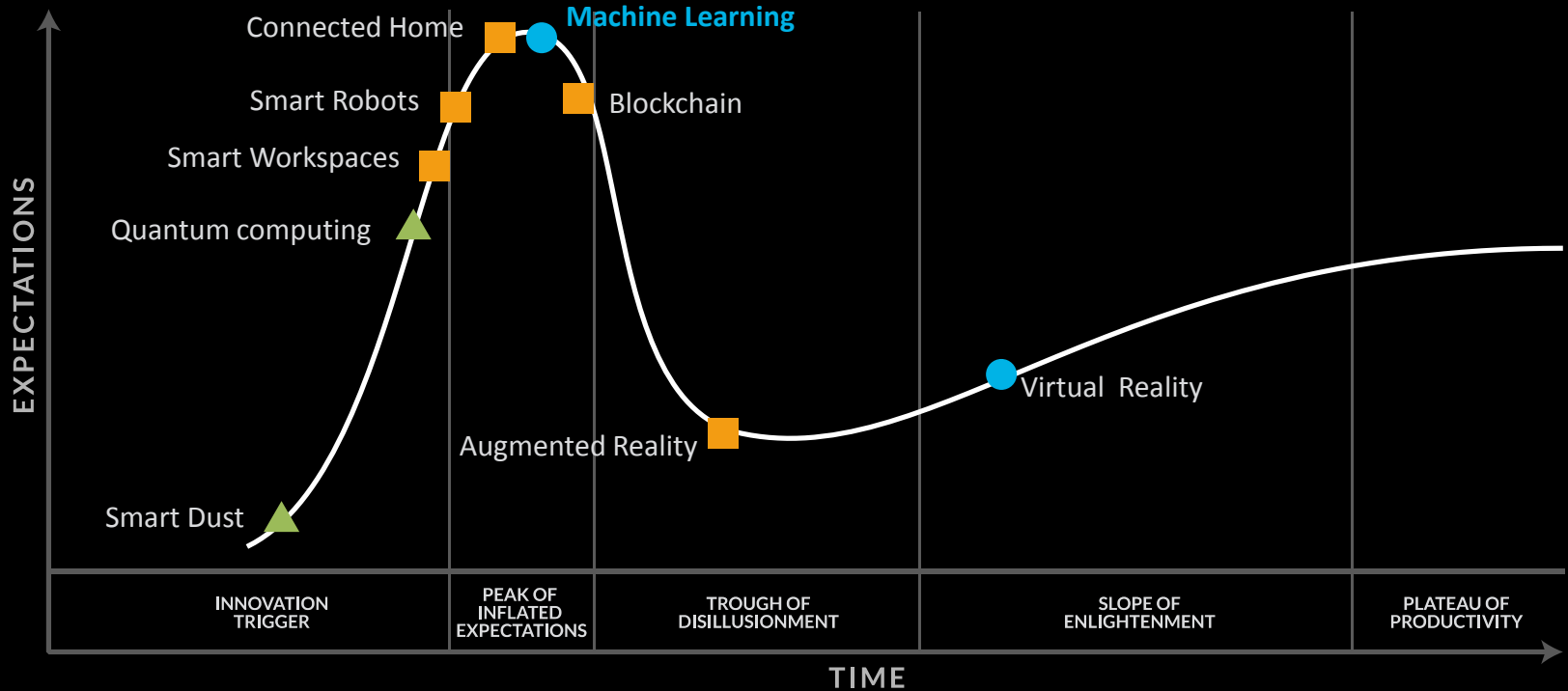
Siri



**Machine learning “gives computers the  
ability to learn without being explicitly  
programmed.”**

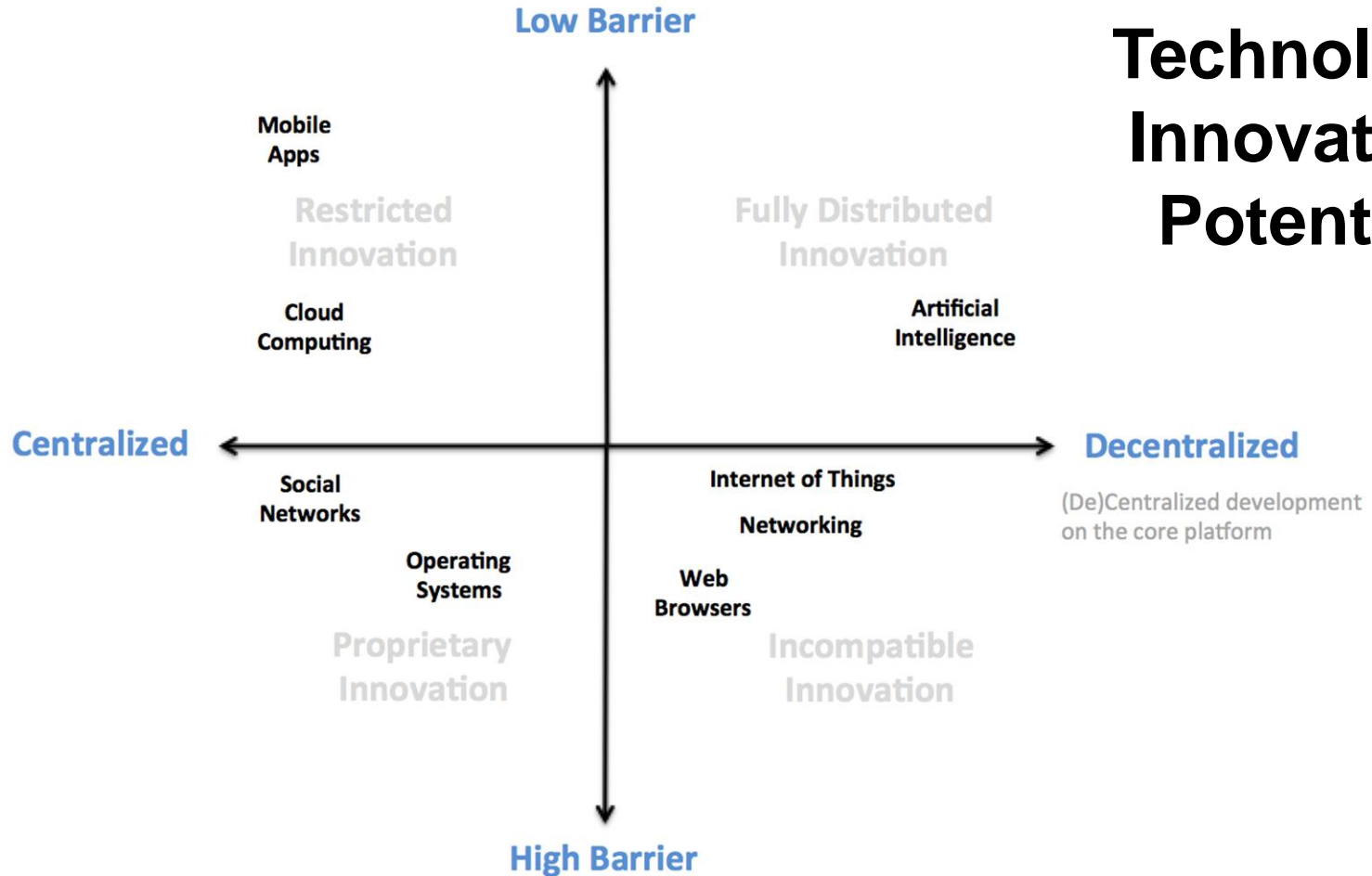
ARTHUR SAMUEL, 1959

# Gartner Hype Cycle Chart



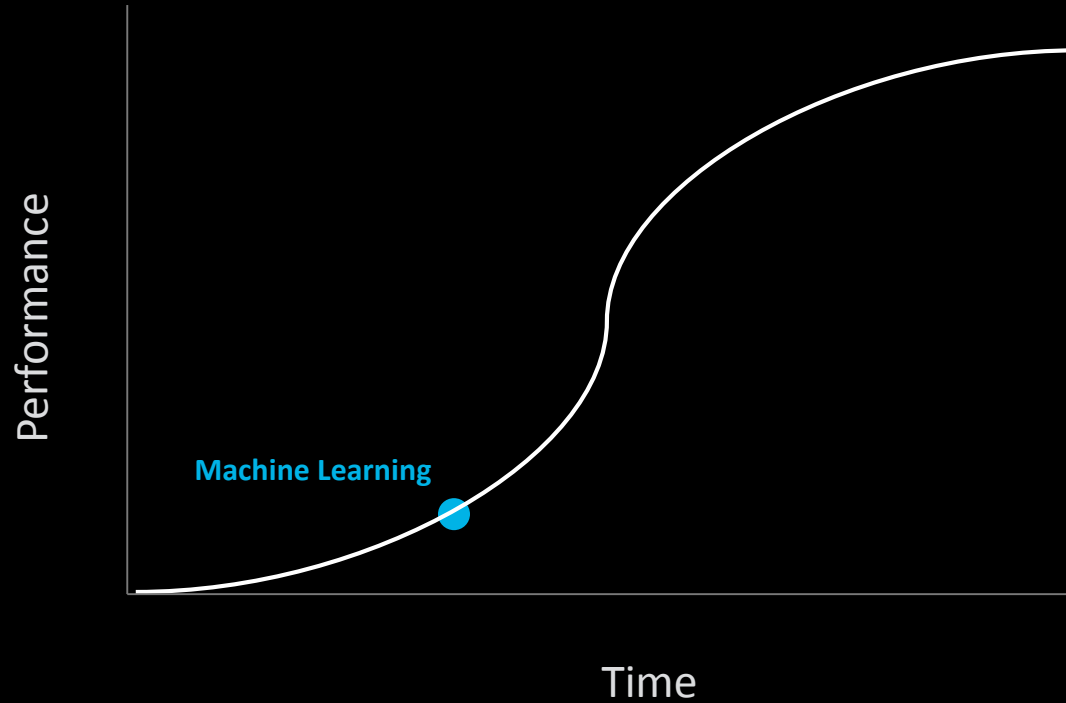


# Technology Innovation Potential



Low/High barrier to entry for ANY individual developer to create something useful

# Technology Maturity S-Curve



# Four Industrial Revolutions

1780-1870



Steam

1870-1960



Electricity

1960-2010



Computing

2010-today



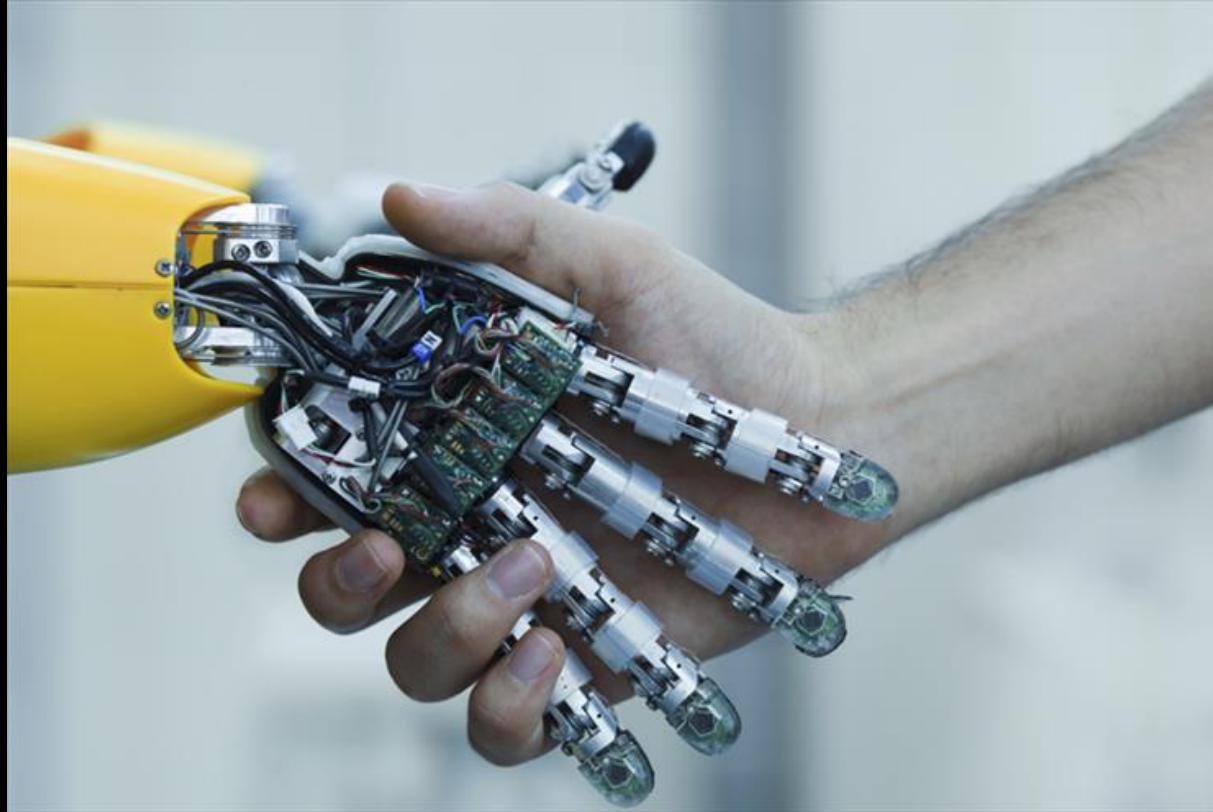
Intelligence



*“Prediction is very difficult, especially about the future.”*

— Niels Bohr

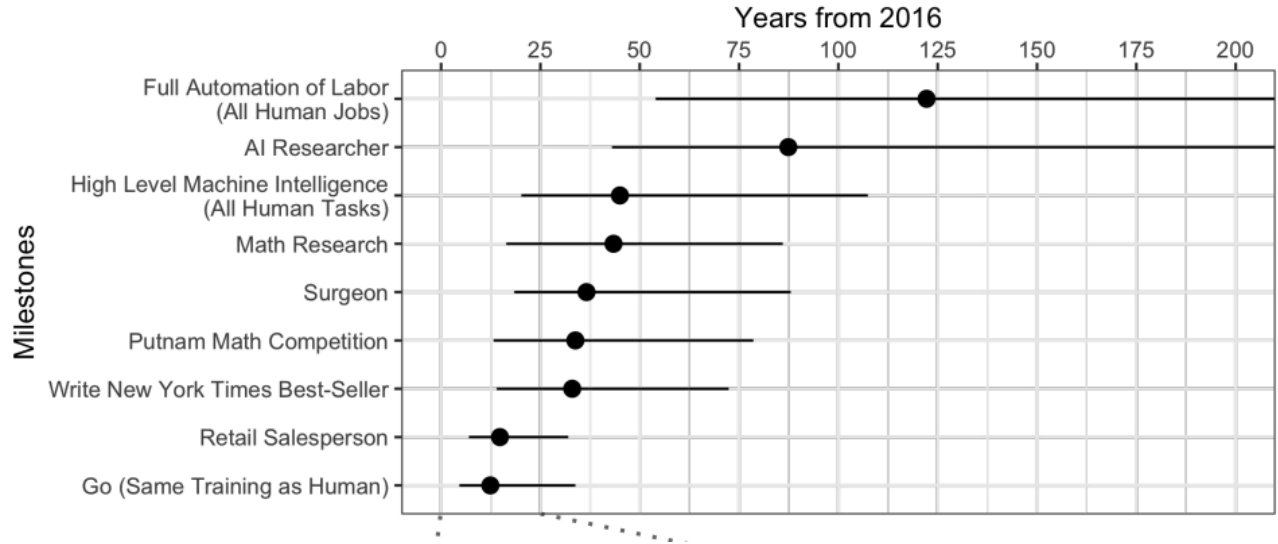
# No Path to Artificial General Intelligence







Fully autonomous robots are far away

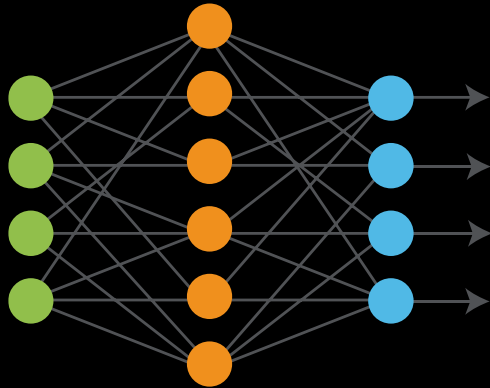


When Will AI Exceed Human Performance? Evidence from AI Experts

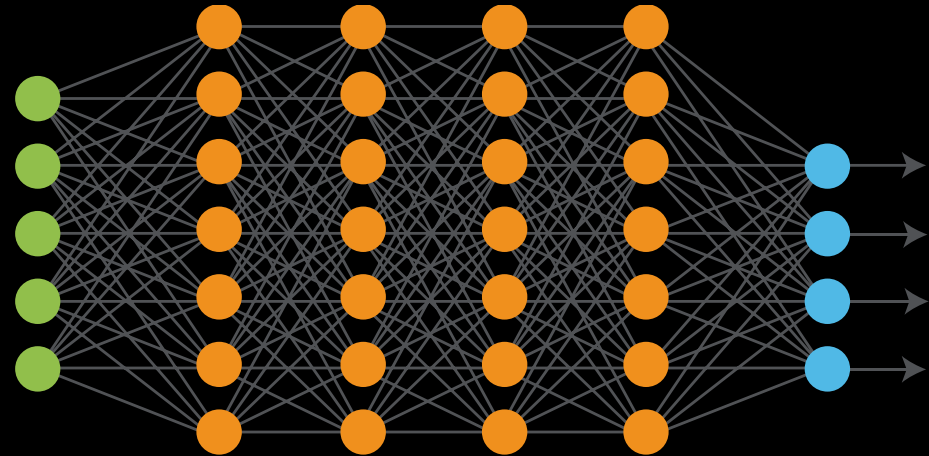


# Deep Learning

Simple Neural Network



Deep Learning Neural Network



● INPUT LAYER

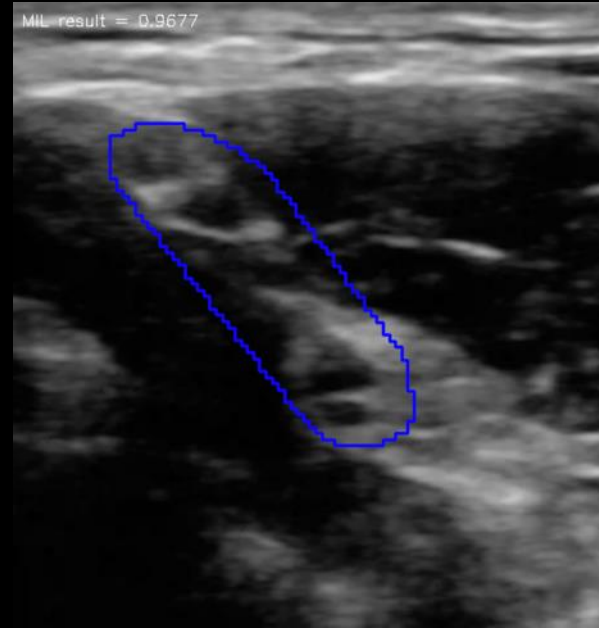
● HIDDEN LAYER

● OUTPUT LAYER

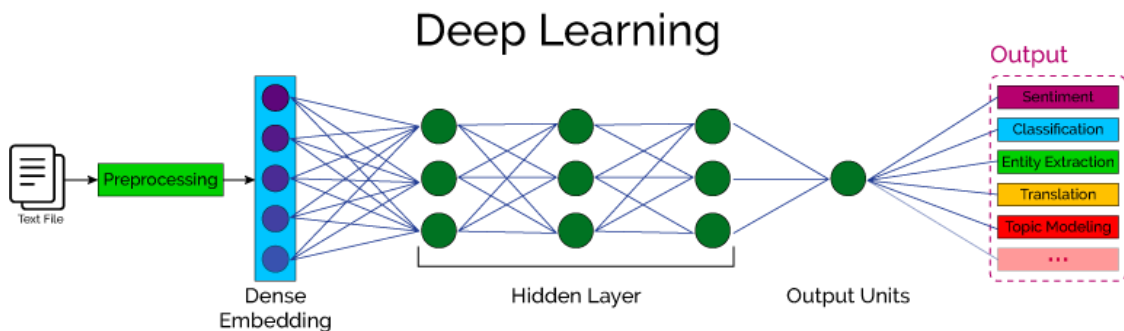
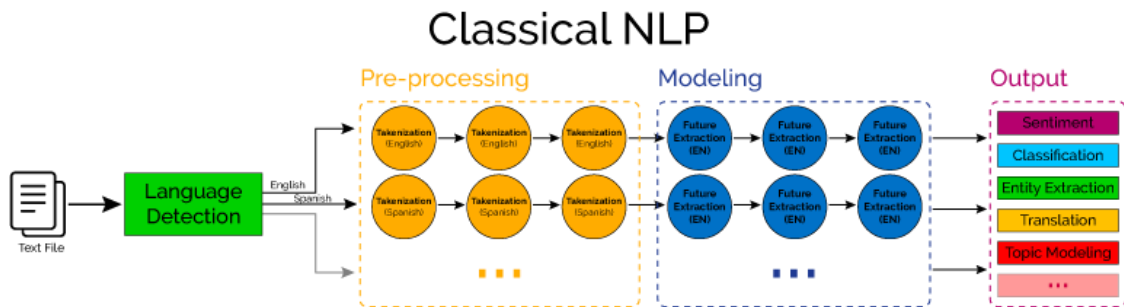
# Advances in Object Recognition



# Security and Healthcare



# Advances in Natural Language



## Drugmaker Lilly hikes 2018 forecast, beats 1Q expectations

Apr. 24, 2018



<https://www>

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INDIANAPOLIS (AP) — Shares of Eli Lilly and Co. climbed early Tuesday after the drugmaker hiked its 2018 forecast and reported first-quarter earnings that beat expectations.

The insulin maker said it now expects adjusted earnings to range from \$5.10 to \$5.20 per share, with revenue coming in between \$23.7 billion and \$24.2 billion. That's up from the company's previous forecast for adjusted earnings of \$4.81 to \$4.91 per share on revenue of \$23 billion to \$23.5 billion.

Analysts forecast, on average, earnings of \$4.88 per share on \$23.43 billion in revenue, according to FactSet.

Lilly reported first-quarter net income of \$1.22 billion, after booking a \$110.8 million loss in last year's quarter.

On a per-share basis, the Indianapolis-based company said earnings, adjusted for asset impairment costs, came to \$1.34 per share.

Those results also exceeded the average expectation on Wall Street, which was \$1.13 per share, according to Zacks Investment Research.

The drugmaker posted revenue of \$5.7 billion in the period, also beating Street forecasts. Four analysts surveyed by Zacks expected \$5.53 billion.

Lilly shares gained \$1.35 to \$81.55 before markets opened Tuesday. The stock had fallen 5 percent since the beginning of the year, while the Standard & Poor's 500 index has stayed nearly flat.

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Elements of this story were generated by Automated Insights (<http://automatedinsights.com/ap>) using data from Zacks Investment Research. Access a Zacks stock report on LLY at <https://www.zacks.com/ap/LLY>

# AI-Powered Communication Will Improve

- Natural Language Understanding
- Abstractive Summarization
- Question & Answer

Will NOT  
auto-  
generate  
books



Max Deutsch [Follow](#)

Obsessive learner and product builder. Founder at <http://OpenmindLearning.com>. Guinea pig for <http://MonthToMaster.com>. Get in touch at <http://max.xyz>.

Jul 8, 2016 · 6 min read

## Harry Potter: Written by Artificial Intelligence

*I trained an LSTM Recurrent Neural Network (a deep learning algorithm) on the first four Harry Potter books. I then asked it to produce a chapter based on what it learned. Here's the chapter. (I added a bit of formatting to aid readability)*

### Part 1

“The Malfoys!” said Hermione.

Harry was watching him. He looked like Madame Maxime. When she strode up the wrong staircase to visit himself.

“I'm afraid I've definitely been suspended from power, no chance—indeed?” said Snape. He put his head back behind them and read groups as they crossed a corner and fluttered down onto their ink lamp, and picked up his spoon. The doorbell rang. It was a lot cleaner down in London.

# Some Jobs Weren't Meant for People



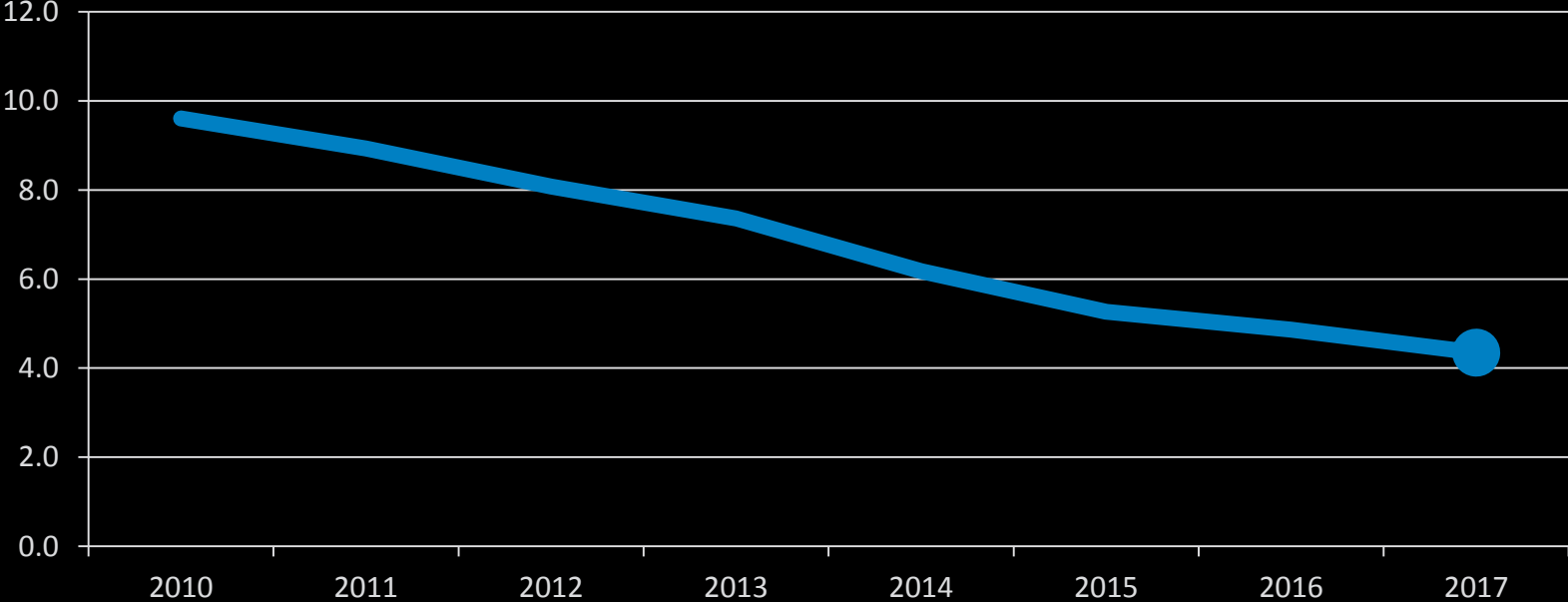
## MACHINE LEARNING...

- Doesn't get tired or disgruntled
- Maintains a consistently high throughput
- Doesn't exhibit unconscious bias



# US Unemployment Rate

Source: Bureau of Labor Statistics

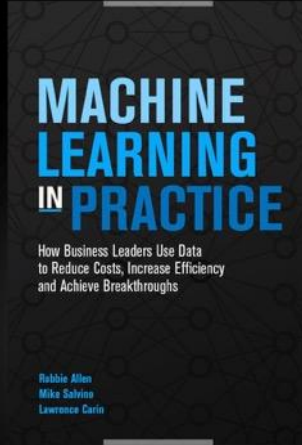


# Humans Have Hard-to-Automate Attributes

- Creative
- Unique
- Empathetic
  
- Constant need to sell stuff...

# Where to Find More...

Pub Date: Feb 2019



MBA 899 – Machine Learning  
Concepts and Business Applications

<http://machinelearninginpractice.com>



Thank You!

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