Artificial Intelligence: Separating the Hype from Reality

Robbie Allen
Introduction

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Why We Are Different

Mike Salvino, Executive Chairman
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35 Patents Granted
11 Books
7 Ph.D.s
Over 550 Published Papers
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**

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- Supervised Learning
- Unsupervised Learning
- Transfer Learning
- Reinforcement Learning
- And More . . .
Machine learning “gives computers the ability to learn without being explicitly programmed.”
ARTHUR SAMUEL, 1959
Gartner Hype Cycle Chart

- Connected Home
- Smart Robots
- Smart Workspaces
- Quantum computing
- Machine Learning
- Blockchain
- Augmented Reality
- Virtual Reality

- Smart Dust

TIME
- INNOVATION TRIGGER
- PEAK OF INFLATED EXPECTATIONS
- TROUGH OF DISILLUSIONMENT
- SLOPE OF ENLIGHTENMENT
- PLATEAU OF PRODUCTIVITY

EXPECTATIONS

- 2-5 years
- 5-10 years
- More than 10 years

JULY 2017
Technology Maturity S-Curve

Performance vs. Time

Machine Learning

InfiniaML
Redefine Possible
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
Advances in Object Recognition
Security and Healthcare
Advances in Natural Language
Drugmaker Lilly hikes 2018 forecast, beats 1Q expectations

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 $5.30 per share, with revenue coming in between $33.7 billion and $34.3 billion. That’s up from the company’s previous forecast for adjusted earnings of $4.81 to $4.91 per share on revenue of $33 billion to $33.5 billion.

Analysts forecast, on average, earnings of $4.88 per share on $33.43 billion in revenue, according to FactSet.

Lilly reported first-quarter net income of $6.22 billion, after booking a $100.8 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 $1.94 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 $5.33 billion.

Lilly shares gained $1.35 to $86.55 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.

Elements of this story were generated by Automated Insights (https://automatedinsights.com) using data from Zacks Investment Research. Access a Zacks stock report on LLY at https://www.zacks.com/stock/1417
AI-Powered Communication Will Improve

- Natural Language Understanding
- Abstractive Summarization
- Question & Answer
Will NOT auto-generate books

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...

MBA 899 – Machine Learning Concepts and Business Applications

http://machinelearninginpractice.com
Thank You!

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