

The Art of AI

Top-10 lessons learned while deploying
machine learning across Finnish business

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TOP-10 LESSONS LEARNED

while deploying machine learning across Finnish businesses

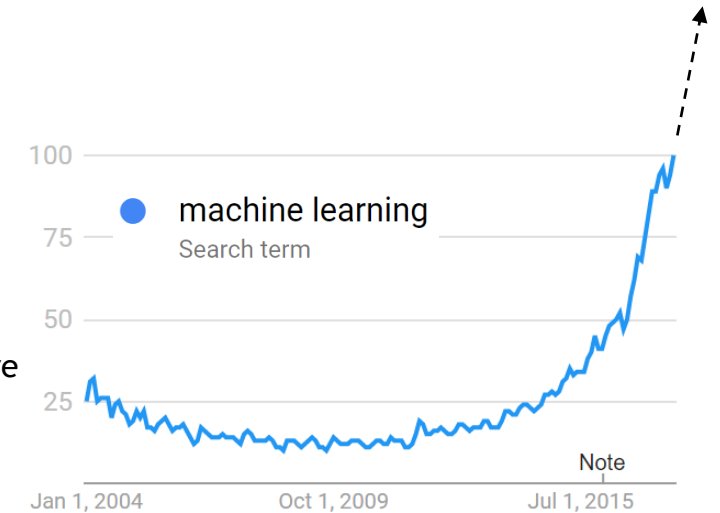
1. Machine goes mainstream
2. Narrow AI everywhere
3. Key skill = defining the question
4. Key challenge \neq data science
5. Data > algorithms
6. Good data > big data
7. Law of diminishing returns
8. Secret of making impact = team sport
9. Fear not for your job (unless it is boring routine)
10. You will fail

LESSON #1

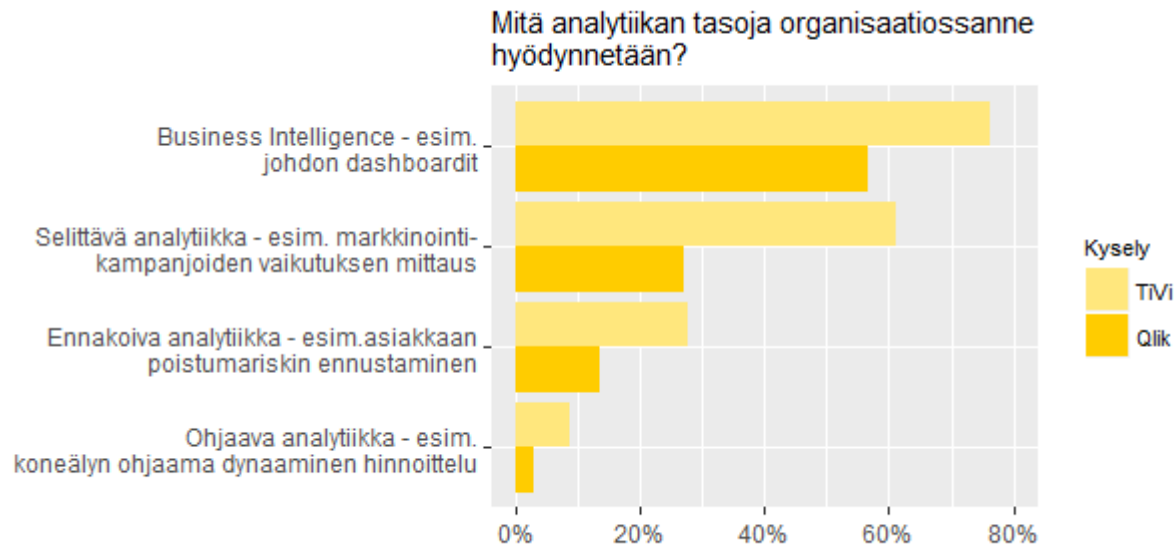
machine goes mainstream



- #1 technology trend 2018 - Gartner
- 2x growth in 2018 and 2x in 2019-2020 - Deloitte
- 2x opportunity for Finnish GDP growth rate - Accenture
- 85% companies see as key source of competitive advantage - BCG & MIT



...but so far, only ~5% of companies have adopted in scale



NEW YEAR 2018

NEW YEAR LOADING

2017

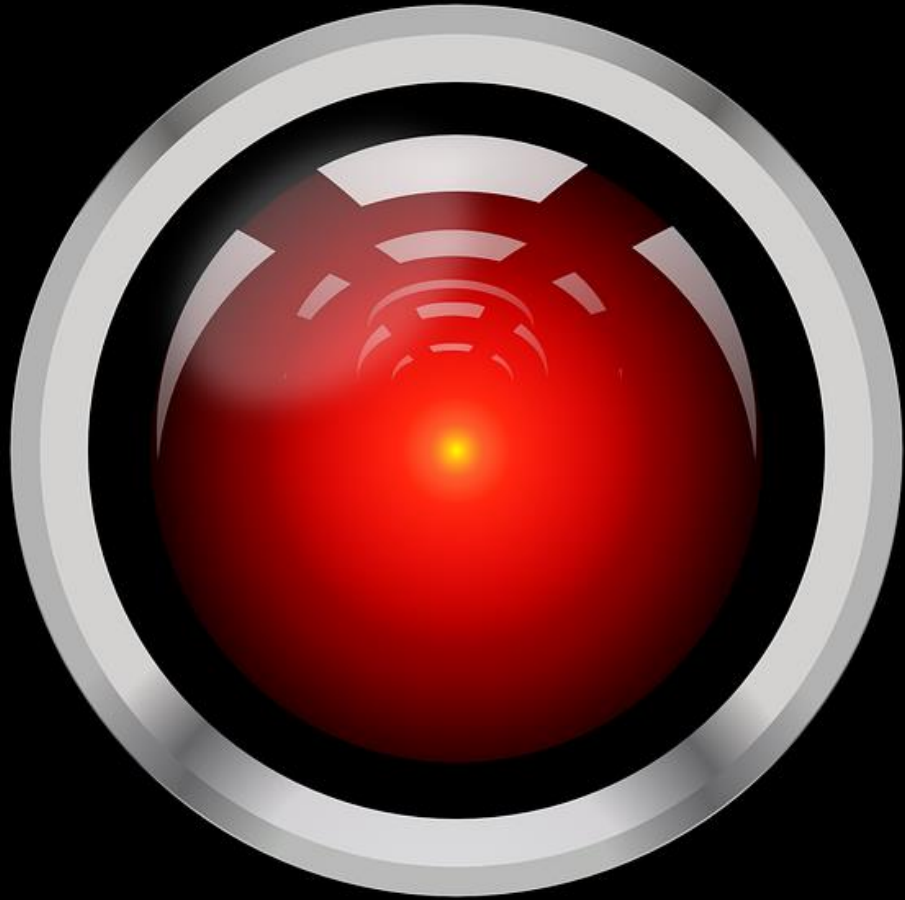


2018

2017

LOADING

LESSON #2



**STRONG AI
NOWHERE**



**NARROW AI
EVERYWHERE**

LESSON #3:

Key to success:
identifying the
right question

...and defining it right

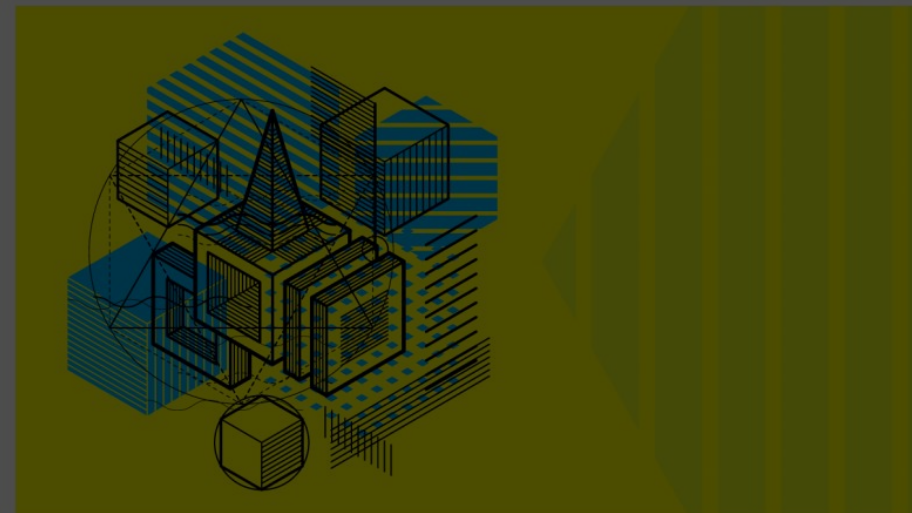
COMPUTERS ARE USELESS.
THEY CAN ONLY GIVE YOU
ANSWERS.

PABLO PICASSO

How to Spot a Machine Learning Opportunity, Even If You Aren't a Data Scientist

by Kathryn Hume

OCTOBER 20, 2017

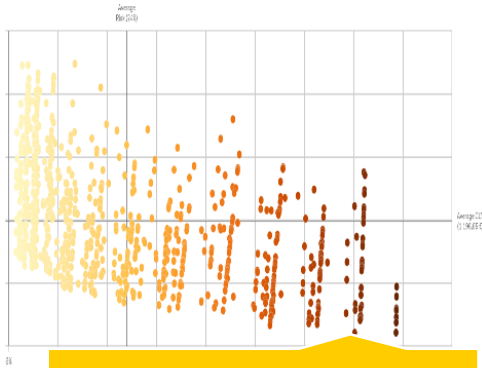


SYLVERARTS/ISTOCK

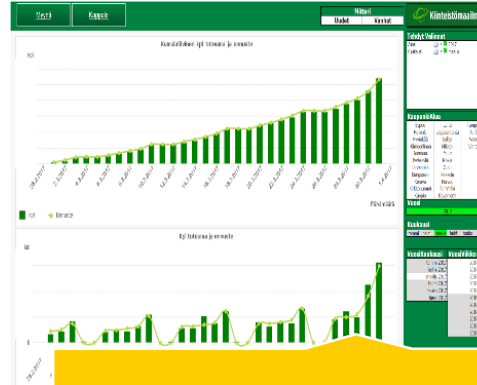
Artificial intelligence is no longer just a niche subfield of computer science. Tech giants have been using AI for years: Machine learning algorithms power Amazon product recommendations, Google Maps, and the content that Facebook, Instagram, and Twitter display in social media feeds. But William Gibson's adage applies well to AI adoption: The future is already here, it's just not evenly distributed.

DEFINE SPECIFIC AND ACTIONNABLE QUESTIONS

Example projects from eCraft Business Insight



How likely is it for each of our customers to churn, and what actions to take?



How much will we sell our products in each market?



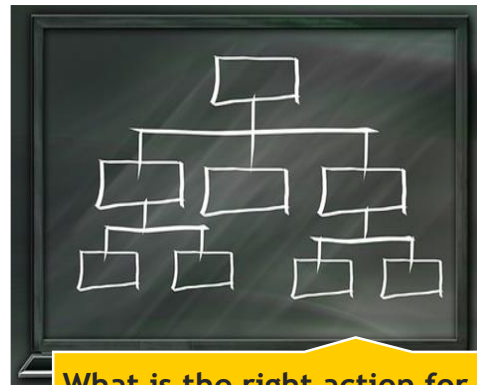
What is the fair market price of each Finnish apartment 2000-2020?



At what price will I maximise profits for our rental apartments?



Whom should we focus support services to reduce 3B€ disability pensions?



What is the right action for categorizing/processing our purchases?



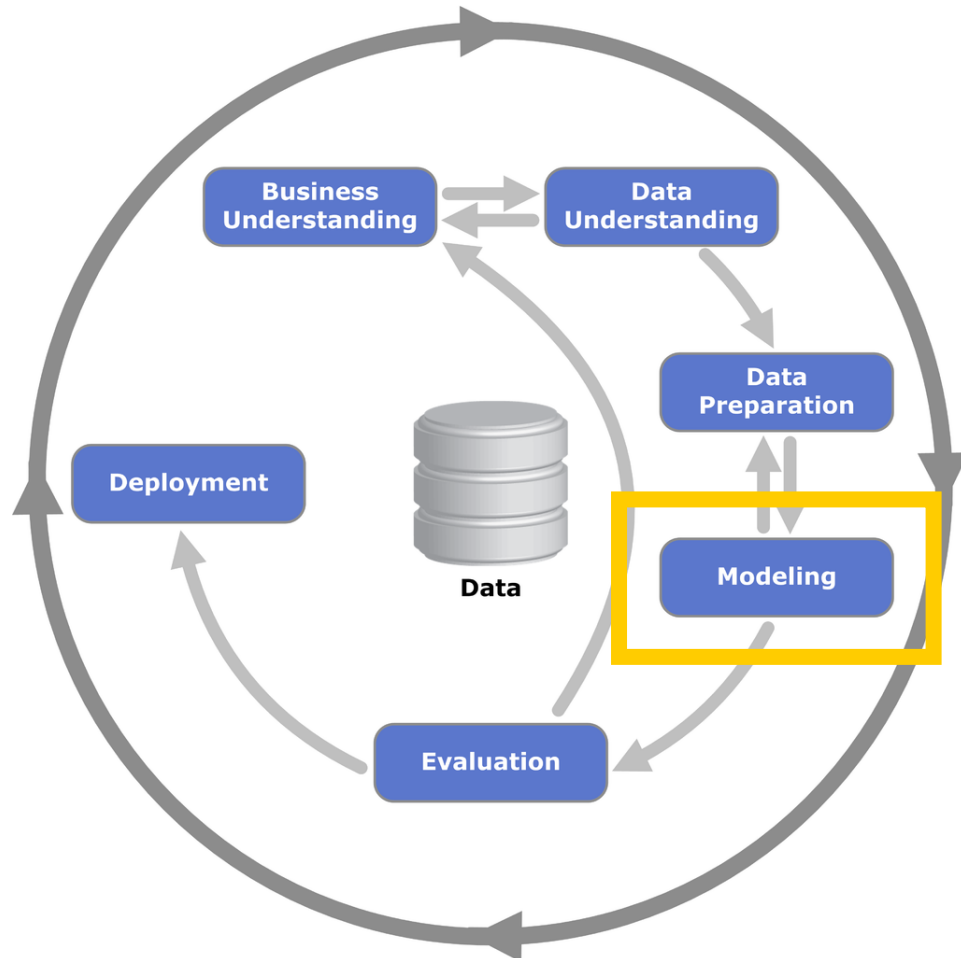
How much electricity will Finland need and how much should we invest?



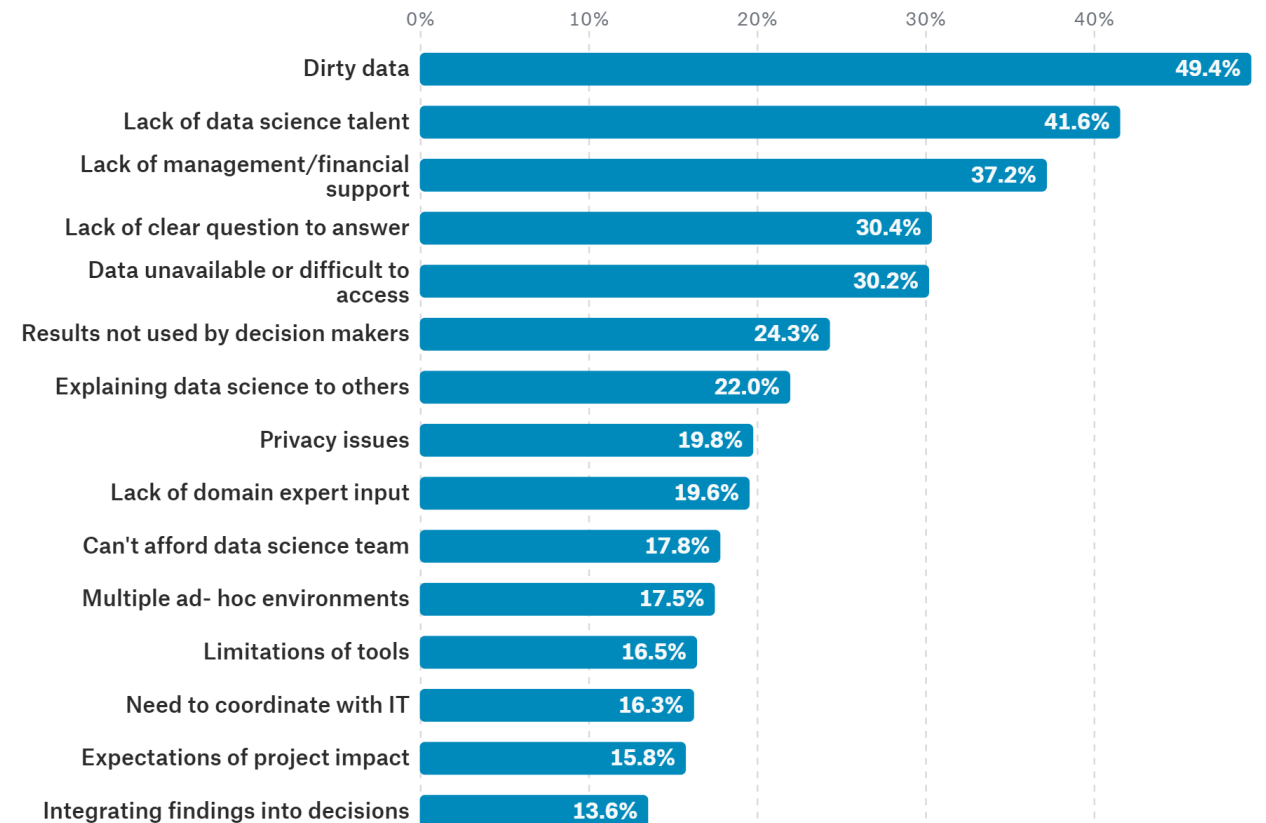
As international hedge fund, should I invest or sell this stock short?

LESSON #4

key challenge \neq data science



What barriers are faced by data scientists at work?



LESSON #5

data > algorithms

Featured Prediction Competition

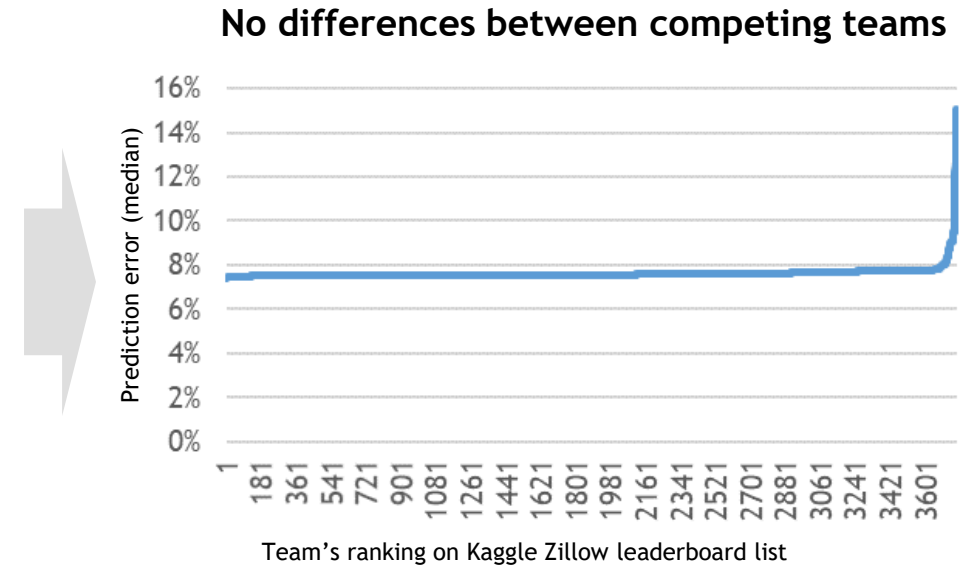
\$1,200,000 Prize Money

Zillow Prize: Zillow's Home Value Prediction (Zestimate)

Can you improve the algorithm that changed the world of real estate?

Zillow · 3,779 teams · 2 months ago

- 3779 teams
- 8 months
- 68150 machine learning models

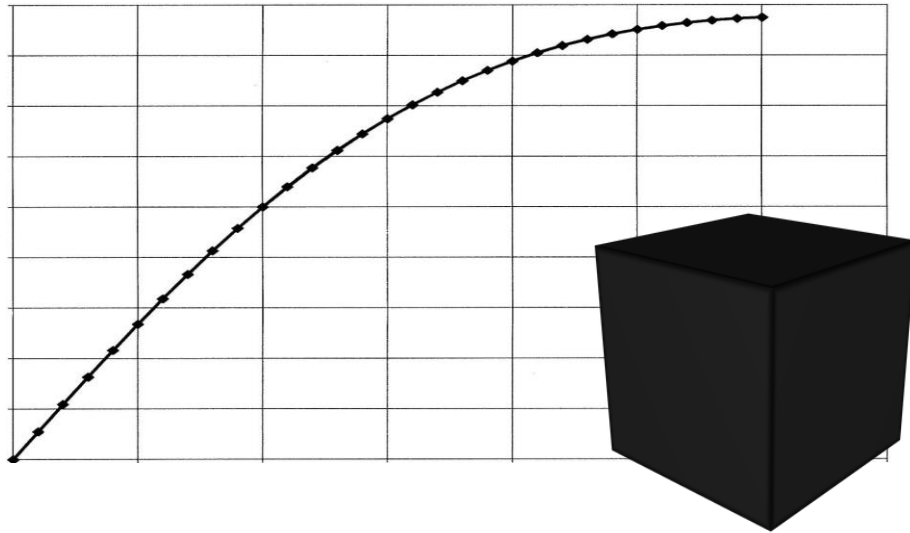




LESSON #6
good data > big data

LESSON #7

law of diminishing returns



“Bayes error rate” is the lowest possible prediction error, i.e. the invisible barrier against which you bang your head



Andriy Burkov

Machine Learning Team Leader at Gartner
3mo

The Machine Learning accuracy rule:

0-80%: one day

80-90%: one week

90-95%: one month

95-97%: three months

97-99%: one year (or never)

2,132 Likes · 155 Comments



Like



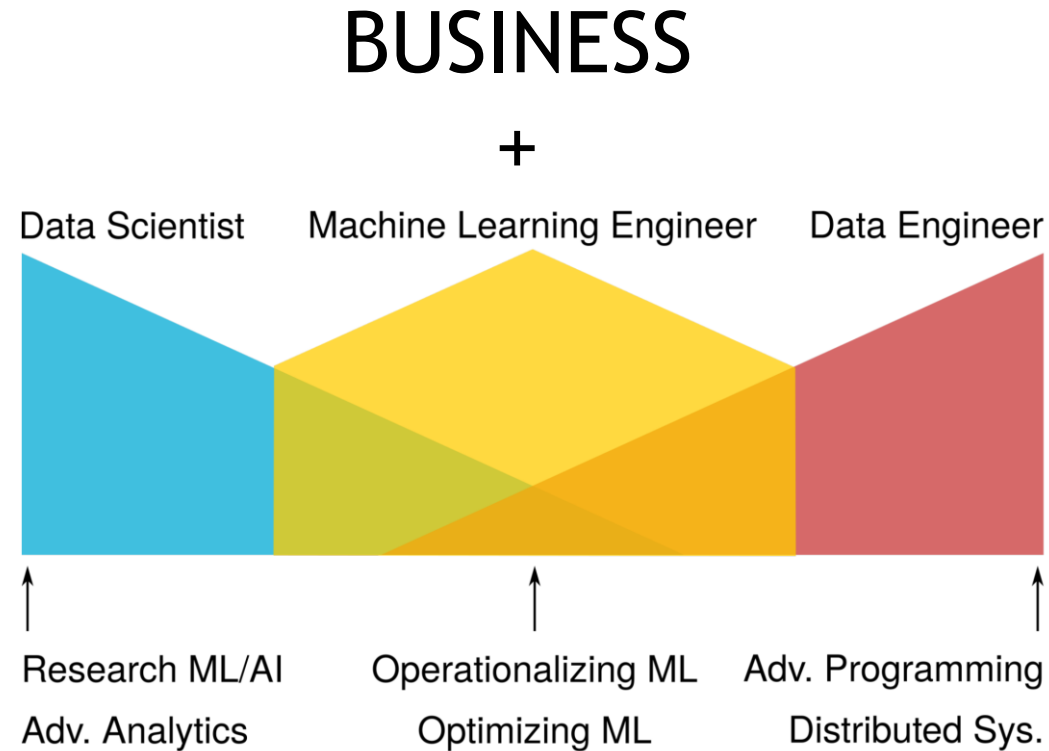
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LESSON #8

secret of making impact = team sport



BDI

BIG DATA INSTITUTE

For more information go to <http://bigdatainstitute.io>

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LESSON #9: Fear not for your job

unless your job is boring routine - and you are unwilling to change

I fear that AI will do some of the current tasks in my job

31%

I hope that AI will do some of the current tasks in my job

70%

Boston Consulting Group & MIT Sloan Management Review (n = 3000, September 2017)

So far, the worry has been premature:

- in 63% organizations **no jobs lost** in AI adoption
- in 83% organizations **new jobs created** in AI adoption
- 67% of the new roles with **high seniority / pay grade**

Capgemini, Artificial Intelligence - Where and How to Invest (n = 997 companies with machine learning adopted, June 2017)

"AI won't be able to replace most jobs anytime soon. But in almost every industry, people using AI are starting to replace people who don't use AI, and that trend will only accelerate." - Prof. Erik Brynjolfsson, MIT Sloan School of Management



LESSON #10
you will fail

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A person wearing a bright red coat and a grey scarf is walking away from the camera on a dirt path. The path is flanked by green grass and some small yellow flowers. In the background, there are some thin trees and a bright, hazy sky. The overall scene is peaceful and evocative of a journey.

THE JOURNEY OF
A THOUSAND MILES
BEGINS WITH
A SINGLE STEP.

LAO TZU

Thank you!

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