Do Our Best to Understand Data In Its Context

Making Real AI - Series

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Context is

The situation within which something exists or happens, and that can help explain it (Cambridge Dictionary, 2019)

Problem

Data points have their context we didn't capture.

(Media vs. Reality #Media Now a days
www.UltimateDesign.in
| Now a days, Media, Day, n.d.)

(Facebook photo knee boobs breast, 2012)

Problem

Resupplying context into data and re-training is an endless process.

Gender	Age	Overall survival (months)
M	47	8
M	69	
F	73	2
F	39	
F	55	12
M	63	
M	73	12
M	73	14
M	75	32

No context

Gender	Age	Smoking	Overall survival (months)
M	47	6	8
M	69	0	
F	73	0	2
F	39	0	
F	55	0	12
M	63	60	
M	73	9	12
M	73	8	14
M	75	30	32

More context

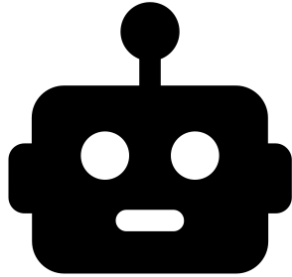| Gender	Age	Smoking	Pathology	Stage	Overall survival (months)
M	47	6	Ad-Sq	II	8
M	69	0	Ad	IV	
F	73	0	Ad	IV	2
F	39	0	NSCLC	IV	
F	55	0	Ad	III	12
M	63	60	sq	I	
M	73	9	Ad	IV	12
M	73	8	Ad	IV	14
M	75	30	sq	I	32

Even more context

Lung cancer data source (Shan et al., 2017)

Usual Solution - Assuming Static Problem Domain

I am bomb detector
for security.

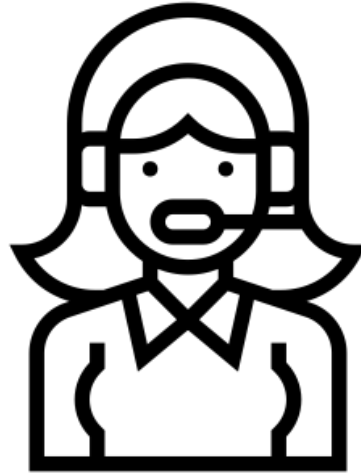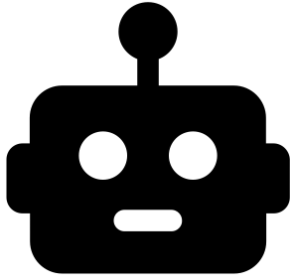# Usual Solution - Assuming Static Problem Domain
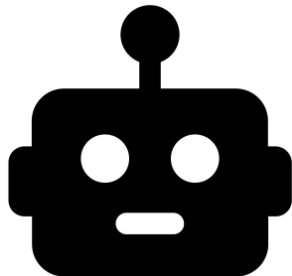

Here's a bomb!

Danger!

Picture source
(F Bomb T-Shirt, n.d.)

Usual Solution - Assuming Static Problem Domain

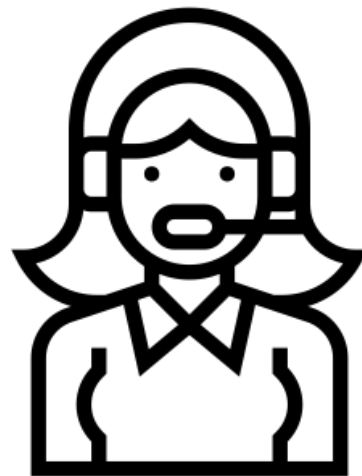This is just a picture on a T-shirt, you have to know the context!

Usual Solution - Assuming Static Problem Domain
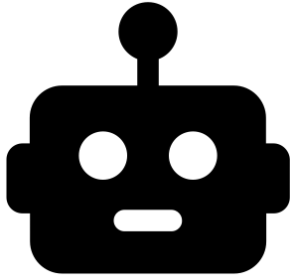

I didn't do any wrong!

This is not the case I supposed to handle!

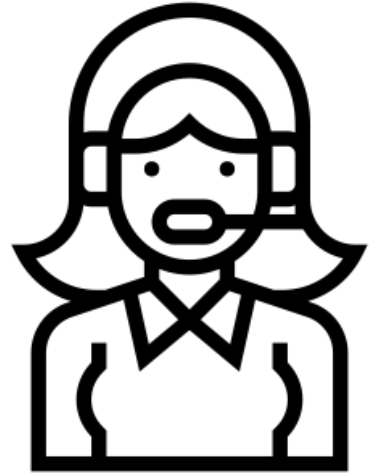I can only achieve what you have defined and learn contextual information you have given in the data!

Usual Solution - Assuming Static Problem Domain

Let's redefine the task and do re-training!

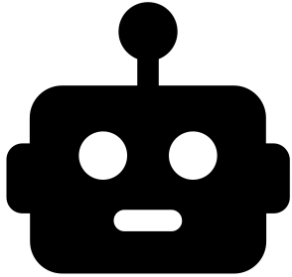And, think clear about what you really want me to do.
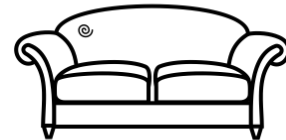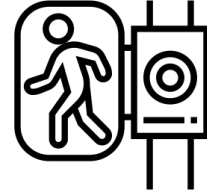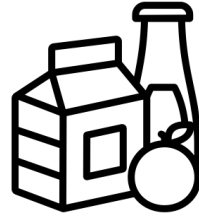
Are you really satisfied with such AI?

Do you accept others (or ourselves) drawing the line of responsibility?

Shouldn't we do our best, across any line of responsibility, to solve problems?
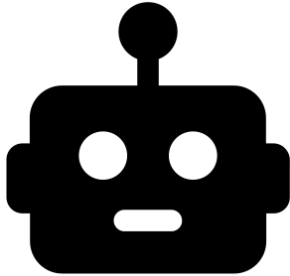
The Right Solution - Integrating All Data for Dynamic Problem Domain

I am continually learning all things.

The Right Solution - Integrating All Data for Dynamic Problem Domain

Integrating all information into one systematic knowledge!

Milk helps sleep.
Asians could not digest milk well.
Milk has high quality proteins.
Whey is milk product.
By producing whey, businessmen can make more money than selling milk alone.
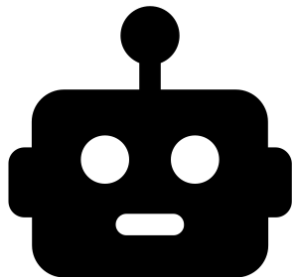Traffic drives global economy.
Oil drives global economy.
Oil price is heavily affected by weather.
…...

With integrated knowledge, the machine will be more aware of contexts.

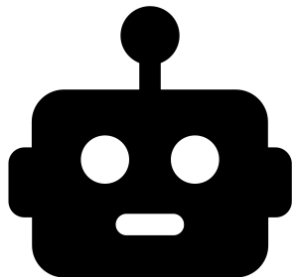# Context Handling Given Knowledge Integration

Now my job is bomb detector for security.

Context Handling Given Knowledge Integration

Picture source
(F Bomb T-Shirt, n.d.)

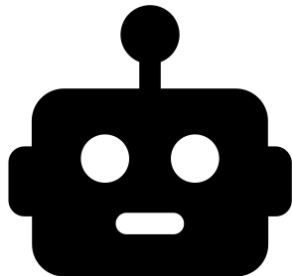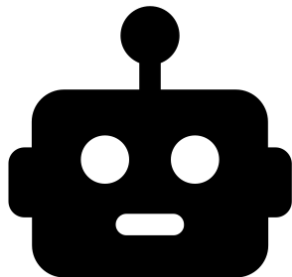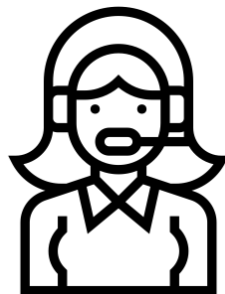# Context Handling **Given** Knowledge Integration
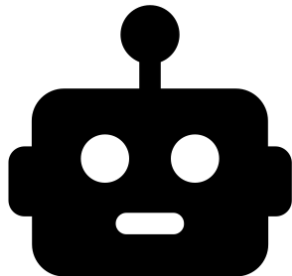

Now my job is
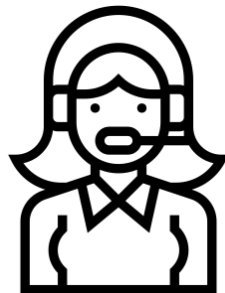medical assistant

Context Handling Given Knowledge Integration
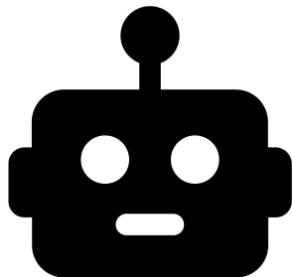

I have allergy,
always runny nose.

Context Handling **Given** Knowledge Integration

Context Handling **Given** Knowledge Integration
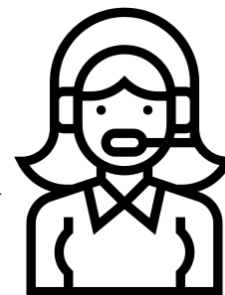
Context Handling **Given** Knowledge Integration

Buy a nice bed for yourself. The cold floor could worsen your symptoms.
(contextual judgment)

Context Handling **Given** Knowledge Integration

Now my job is a
news commenter.
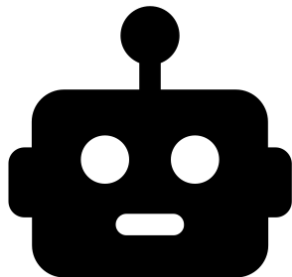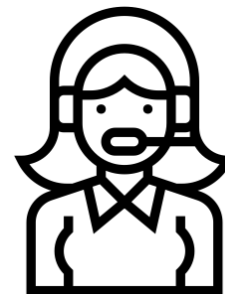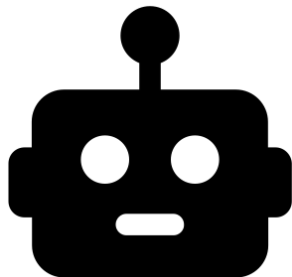
Context Handling **Given** Knowledge Integration

Context Handling Given Knowledge Integration - for TRUTH

Stop Others/Yourselves from Drawing a Line of Responsibility.

Without Trying to Link All Machine Learning Data and Models Into One Integrated Knowledge System, Doing Task-specific Machine Learning Means You're Not Doing Your Best to Solve the Problems.

Start to Build Your Machine Knowledge Integration TODAY

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Start Your AGI Journey, for Service Quality and Responsibility, TODAY

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Really Do Our Best to Understand Data in Its Context, from TODAY.

How to Integrate All Data for Dynamic Problem Domain?

See Our Learning Context is All You Need for Task-general Artificial Intelligence. (link)

And Our Future Decks of Slides.

Reference

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- Shan, S., She, J., Xue, Z., Su, C., Ren, S., & Wu, F. (2017). Clinical characteristics and survival of lung cancer patients associated with multiple primary malignancies. *PLOS ONE, 12*(9), e0185485. https://doi.org/10.1371/journal.pone.0185485

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