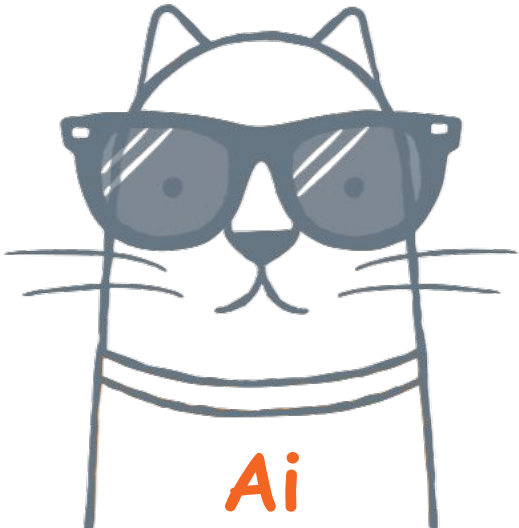
Making your applications think*

A practical approach to AI

Artificial Intelligence

- It is the science and engineering of making intelligent computer programs.
- Intelligence? More specifically “human intelligence”.
- Is it sentient? No! It can not think for itself. AI is limited to the knowledge of the programmer.
- Why does AI seem to be “sentient”?

goo.gl/
WPHG4Z



Deep Searching

Machine Learning

Computer Vision

Pattern Recognition

Image Recognition

NLP

Knowledge Representation

Neural Nets

What is a practical approach?

Straight up code.

Why?

It's easier to grasp the concepts of AI, when you have something tangible to fall back on.

Many concepts of AI are abstract and without a practical approach, things may seem vague.

The Plan

The hardest part of an AI machine, is deciding what it will do. **Not** doing it.

- ➔ **AI Applications**
  A look at popular AI backed solutions,
- ➔ **Tools and Resources**
  Hitchhiking on the learnings of others.
- ➔ **Brainstorming**
  What problems are you working on that AI can be applied to?

NLP

Can intelligence be used as a time saver?

https://blog.understandbetter.co
/how-you-can-read-a-100-responses-in-30-minutes

Tip

The secret of NLP is organization. Look at grammar like a schema. Where each word belongs to a group, and assign scores for it.

And then, **magic**.

Knowledge Representation

Can ratings represent human emotions?

https://imgur.com
/a/IoVY5

Tip

A comment from this study says “I remember watching HIMYM and feeling betrayed”.

Who would have thought that graphs and ratings can be used to represent human emotion.

Neural Networks

Can a computer recognize hand drawn images?

https://aiexperiments.withgoogle.com/

[Quick Draw | With Google]

Tip

QD asked everyone to draw an image of a dolphin. Since a large number of people confused a shark with a dolphin, Google now thinks a picture of a shark is a dolphin!

AI is **not** sentient.

Deep Searching

How do we find people affected in an area?

https://code.facebook.com/posts/1031317120284314/safety-check-streamlining-deployment-around-the-world

Tip

Querying with small amounts of data does not scale when handling larger amounts.

Pre-processing and better knowledge representation are key.

Machine Learning*

Can AI be used in game of scrabble?

http://www.r2d3.us
/visual-intro-to-machine-learning-part-1

Tip

For deep searching, pre-processing is the only way to succeed.

Instead of representing data in a mundane alphabetical or chronological way, devise an order that fits the context.

Pattern Recognition

Can a deeper look reduce data storage sizes?

https://www.skcript.com
/shrink

Tip

AI branches are merely gray lines. Use them in combination to get things done faster and smarter.

Tools/Resources

Open Source Resources

- Awesome AI
  https://github.com/owainlewis/awesome-artificial-intelligence
- Python for AI
  https://wiki.python.org/moin/PythonForArtificialIntelligence
- Google's Tesor Flow*
  https://www.tensorflow.org/

Tools/Resources

Visualization Tools

- Tableau
  http://www.tableau.com/learn/training
- Orange
  http://orange.biolab.si/
- E-Charts
  https://github.com/ecomfe/echarts
- Visual Introduction to ML
  http://www.r2d3.us/visual-intro-to-machine-learning-part-1/

Tools/Resources

Testing Tools

- Universe by OpenAI
  https://github.com/openai/universe
- Feature Forge
  https://github.com/machinalis/featureforge

Tools/Resources

Inspiration Resources

- r/dataisbeautiful
  https://reddit.com/r/dataisbeautiful
- ProductHunt
  https://www.producthunt.com/search/posts?q=artificial+intelligence
- AI Experiments
  https://aiexperiments.withgoogle.com/


How can AI make
your work more efficient?

Thanks. Now is your time!

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