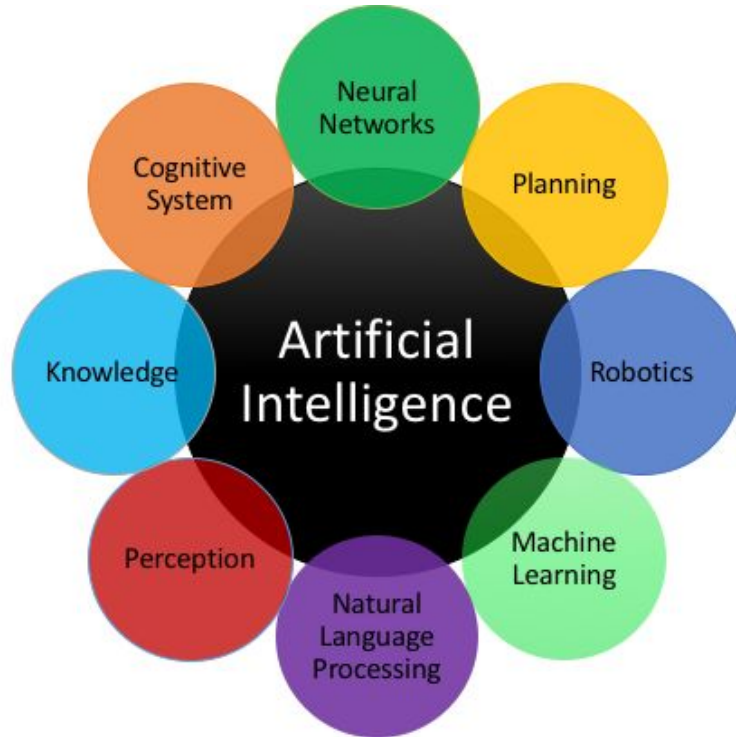


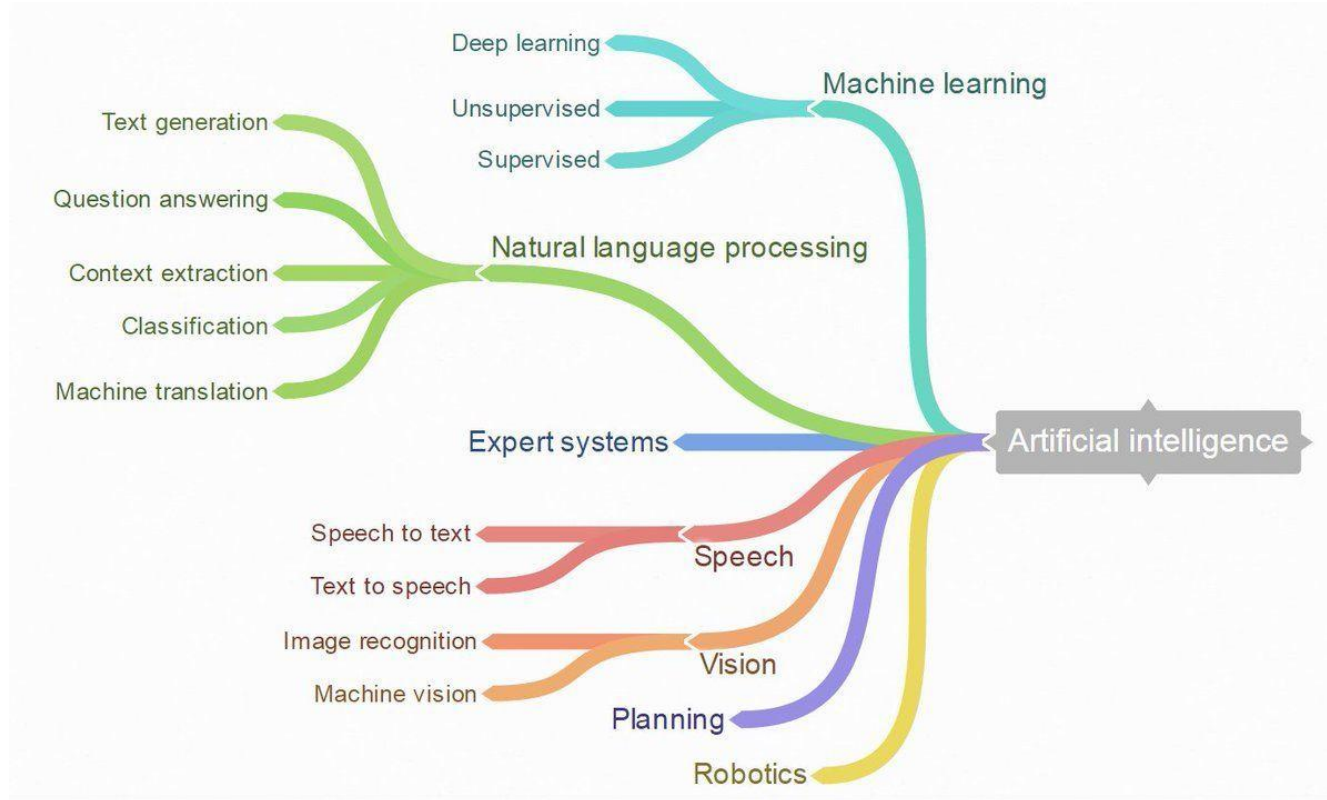
# AI: The New Electricity

Muhammad Kamran Janjua

# AI? Buzz Word?

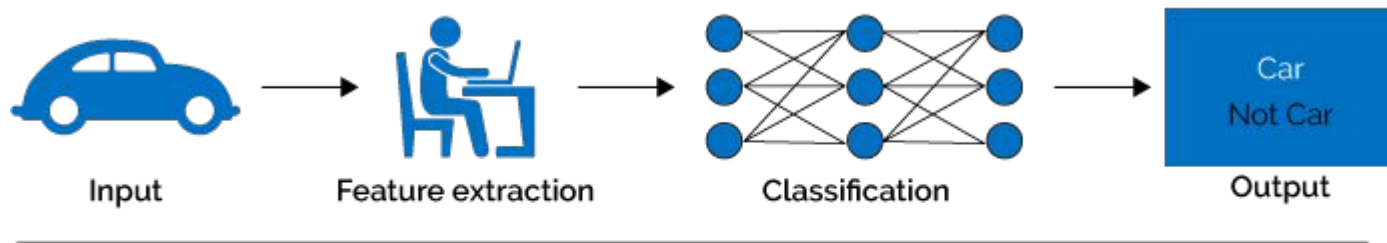


# AI Demystified

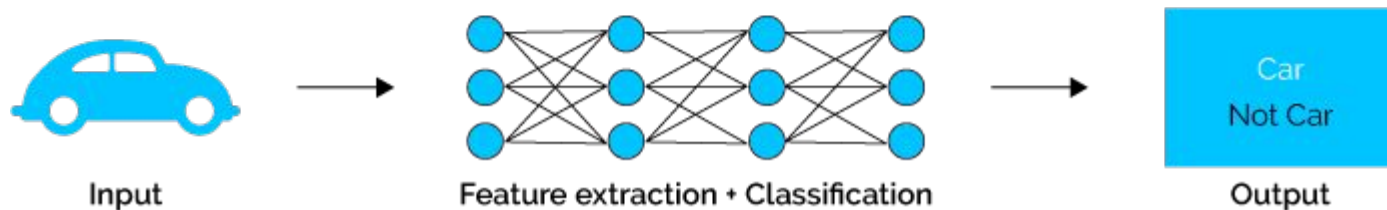


# Machine Learning vs Deep Learning

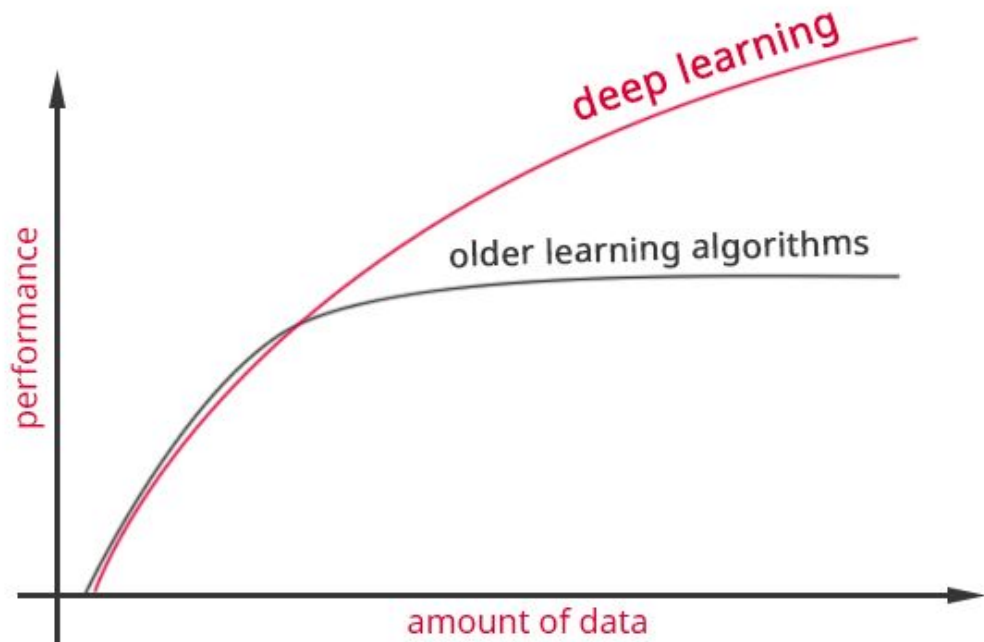
## Machine Learning



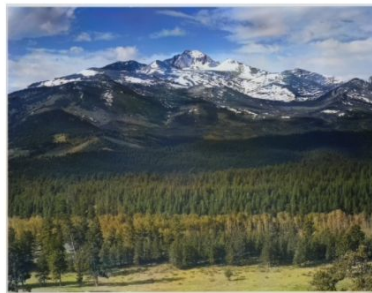
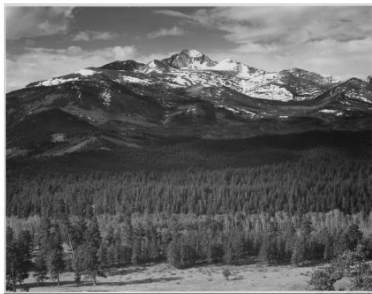
## Deep Learning



# Why Deep Learning?



# Cool Deep Learning Work (1)



Colorado National Park, 1941



Textile Mill, June 1937



Berry Field, June 1909



Hamilton, 1936

# Cool Deep Learning Work (2)

Labels to Street Scene

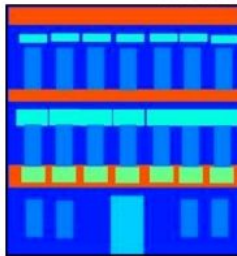


input



output

Labels to Facade



input



output

BW to Color



input



output

Aerial to Map

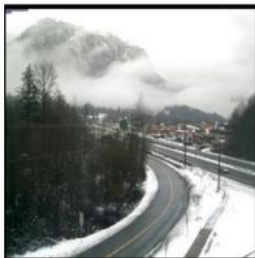


input



output

Day to Night



input



output

Edges to Photo



input





output



# Cool Deep Learning (3)

✓ Analysis complete. Your roof has:

-  **1,531 hours of usable sunlight per year**  
Based on day-to-day analysis of weather patterns
-  **758 sq feet available for solar panels**  
Based on 3D modeling of your roof and nearby trees

**\$5,000 savings**  
Estimated net savings for your roof with a 20-year lease

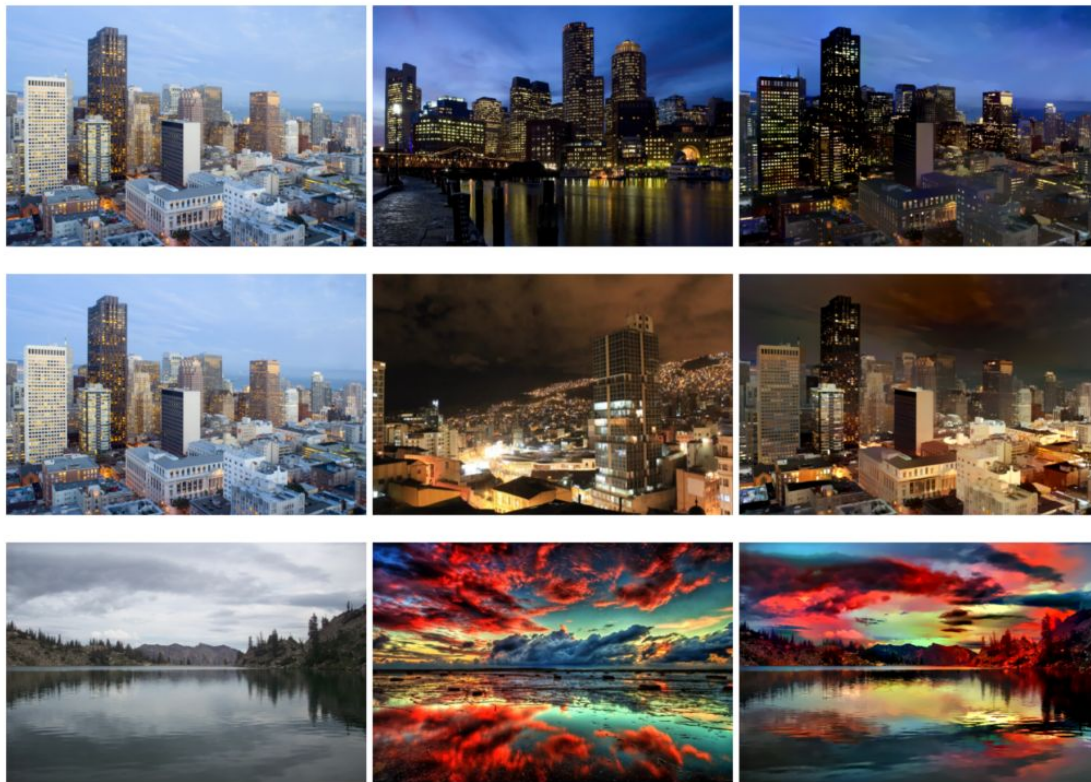
[FINE-TUNE ESTIMATE](#) [SEE SOLAR PROVIDERS](#)

Wrong roof? Drag the marker to the right one.





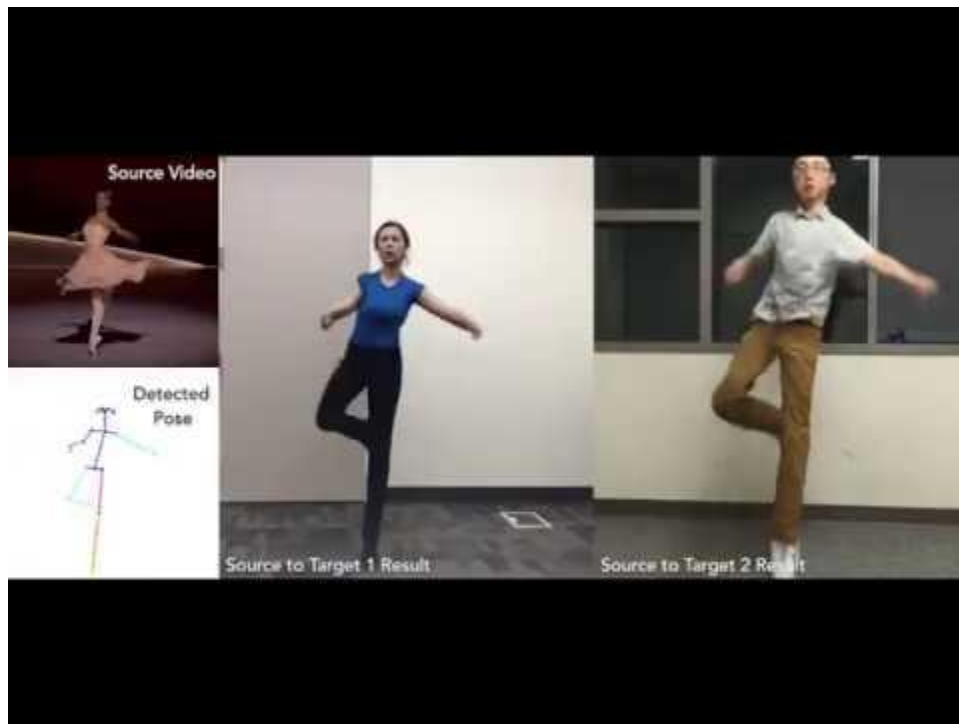
# Cool Deep Learning (4)



# Cool Deep Learning (5)

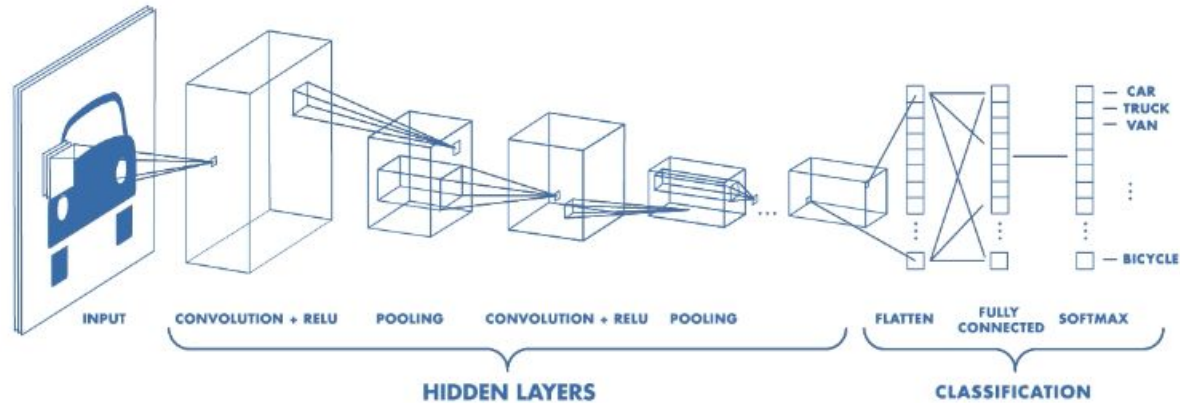


# Other Fascinating Work



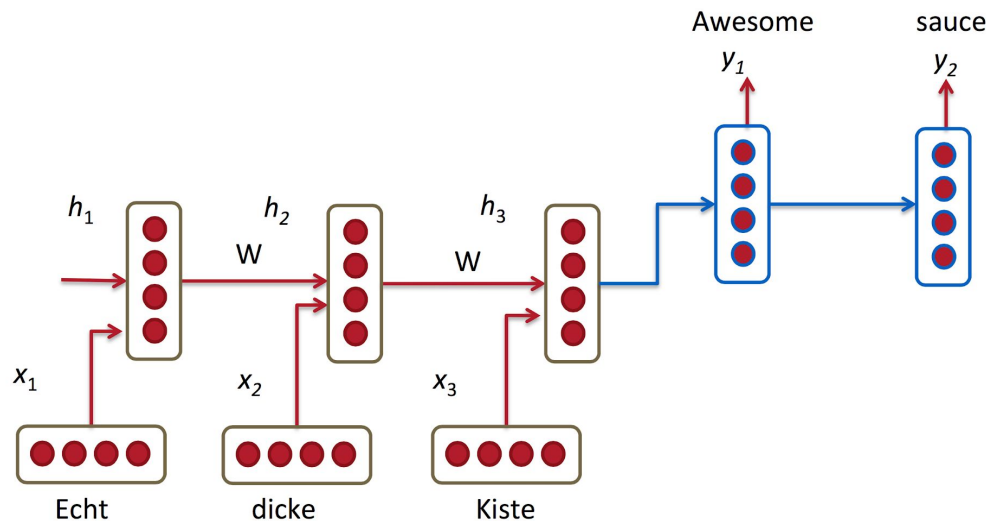
# Nuts and Bolts of Deep Learning

Vision => CNN



# Nuts and Bolts of Deep Learning

Sequence => RNN



# How to get started?

Must => Introduction: <https://work.caltech.edu/telecourse>

If Vision? => Vision: <http://cs231n.stanford.edu/>

If NLP? => Language: <http://cs224d.stanford.edu/>

If DRL? => Deep Reinforcement Learning: <http://rll.berkeley.edu/deeprlcourse/>



# Upcoming Events

- Paper Reading Sessions
- How to read deep learning papers?
- How to cope with the fast paced research in the field?
- How to conduct research?
- How to publish “GOOD” papers?
- Deep Learning Internships NUST => TUKL, CVML, SIGMA
- Deep Learning Internships Abroad => Europe, USA, Canada
- Hands On Deep Learning Frameworks Workshops => Tensorflow, Keras etc

Any Questions?