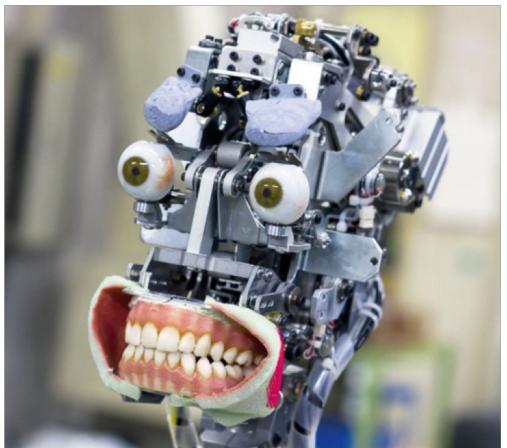
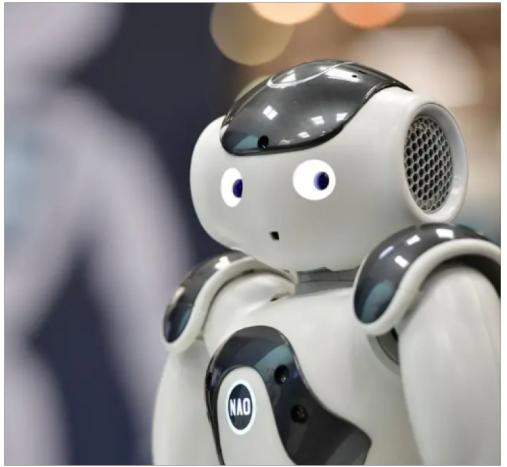


AI

Trends and Applications

# Artificial Intelligence



# What is AI?

Artificial Intelligence (AI) is a field that studies **intelligent agents**



Agents that are able to perceive the environment and take actions towards a goal.

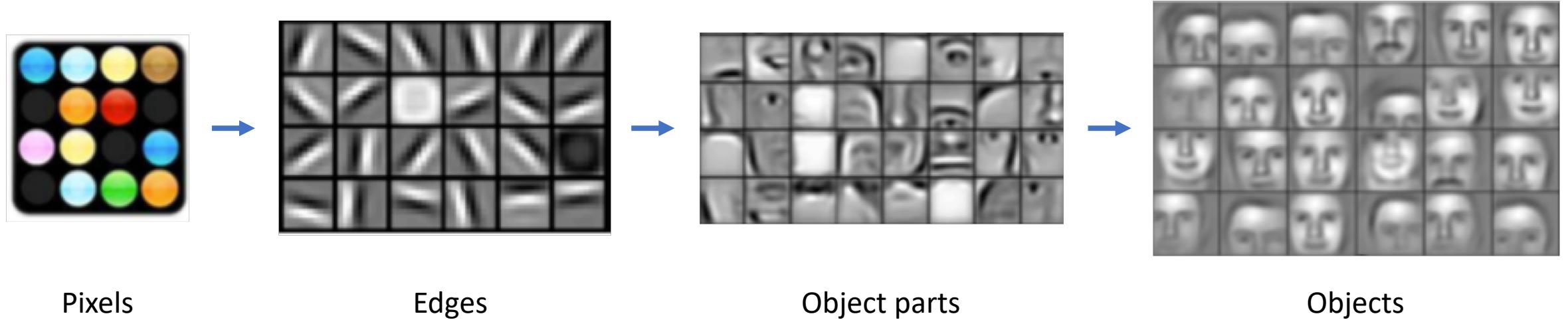
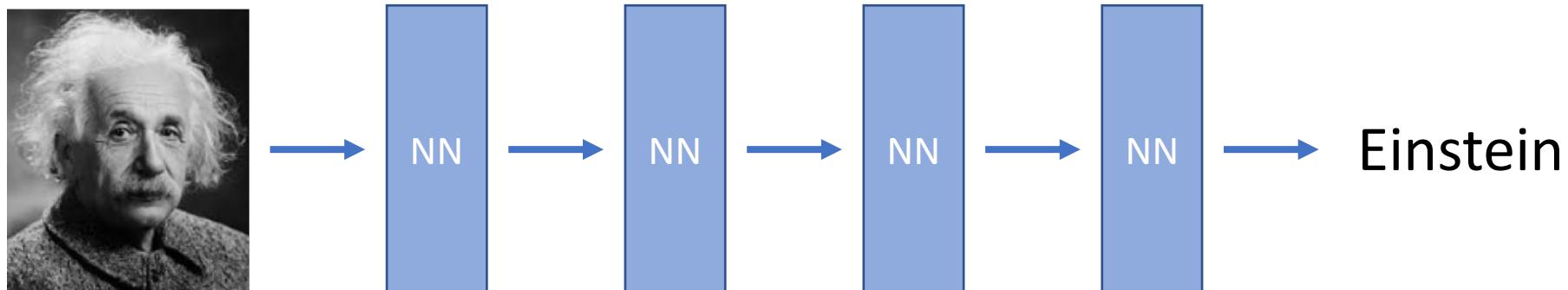


Artificial Intelligence

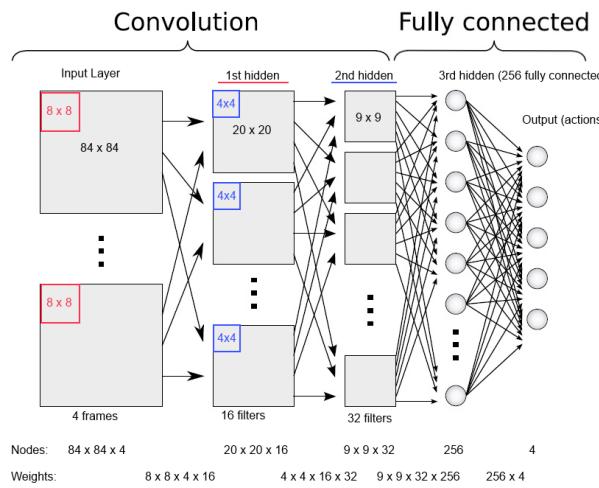
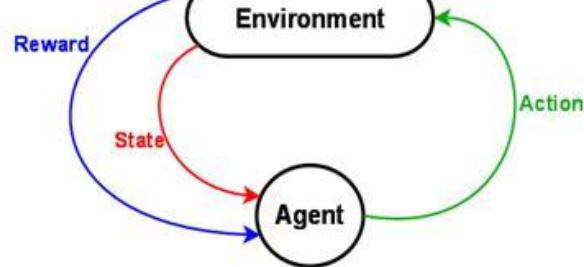
Machine Learning

Deep Learning

# Deep Learning

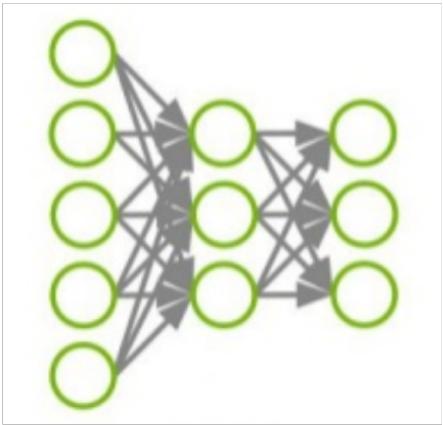


# Deep Learning



Deep Reinforcement Learning - AlphaGo

# Deep Learning



Tools

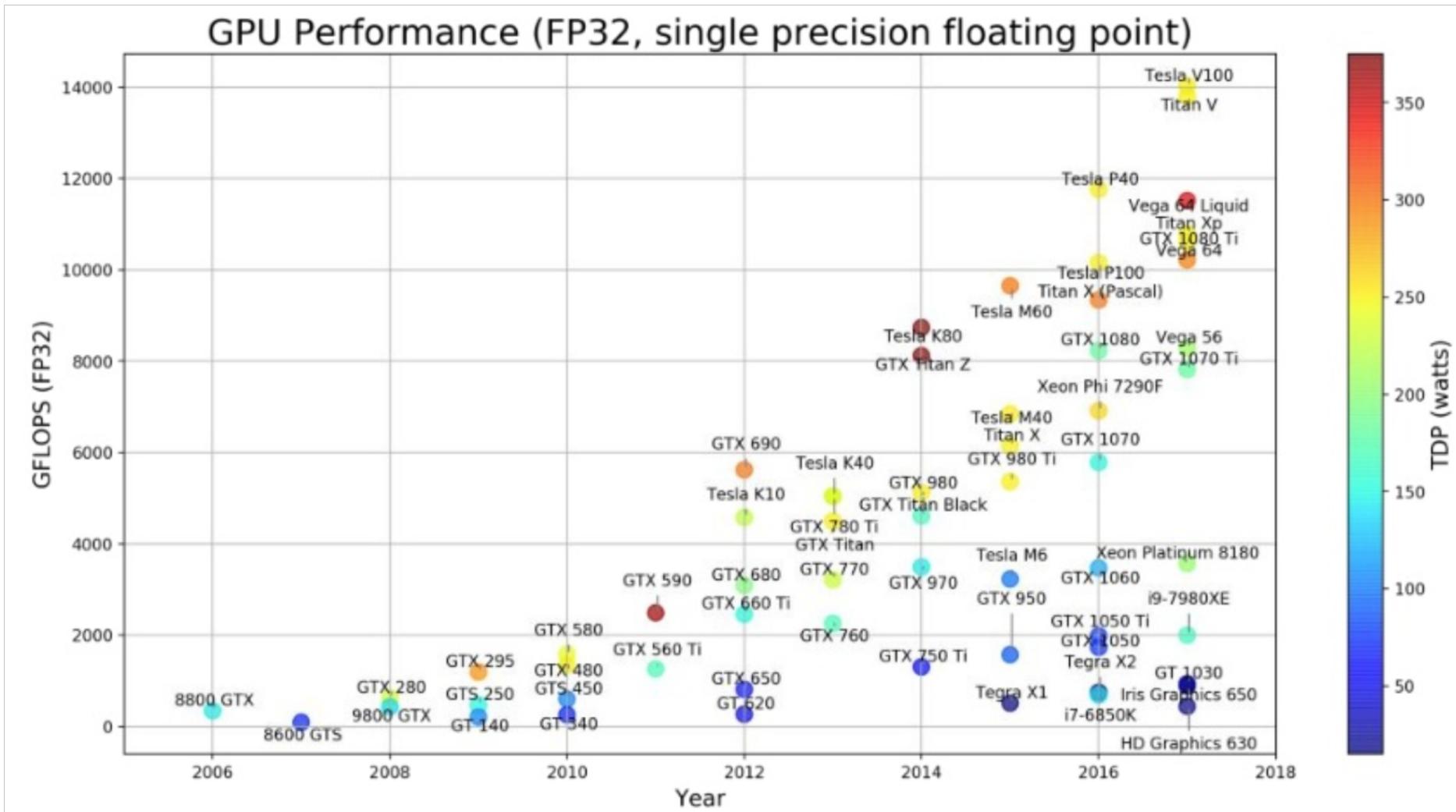


Data



GPU

# Deep Learning



# Perception

Natural Language Processing (NLP)

High-level understanding of text and speech

Computer Vision

High-level understanding of images and videos

Information Retrieval

Sentiment Analysis

Machine Translation

Intent Classification

Object Detection

Object Classification

Image Segmentation

Recurrent Neural Network  
RNN

Convolutional Neural Network  
CNN

# Recommender Systems

The screenshot shows the Netflix homepage. At the top, there's a red navigation bar with links: "Watch Instantly -", "Just for Kids -", "Your Queue", "Personalize", and "DVDs -". Below this, under "Friends' Favorites", it says "Based on these friends:" followed by a grid of small profile pictures. To the right, there are six movie/TV show posters: "Parks and Recreation", "Portlandia", "30 ROCK", "LOUIE", "IT'S ALWAYS SUNNY IN PHILADELPHIA", and "Louie". Below this section, under "Watched by your friends", there's a list of users with their names: Chris Saint-Amant, Adrien Lanusse, George Hayes, Jennifer L. Nieve, and John Midgley. Next to each name is a small profile picture. To the right, there are five movie/TV show posters: "Parenthood", "SONS OF ANARCHY", "how i met your mother", "THE SECRET OF NIMH", and "THE WALKING DEAD".

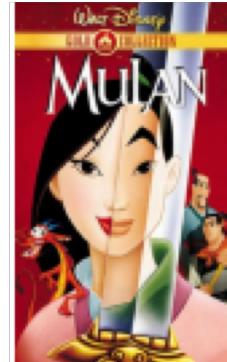


Users



Items

customers have been happier with zero and you still  
really captured the feeling and joy of our special day  
**WILL knock your socks off!**  
**priceless** **AMAZING!**  
Friends and family loved interacting with them  
creative and incredibly thoughtful people  
their work is beautiful  
couldn't be happier with our photos  
dynamic, creative, and is like no other photography we have seen  
I would highly recommend their services  
**absolutely wonderful! just precious people**  
I felt like I was re-living (the wedding day) when I looked at the photos  
**top notch** photos were fantastic  
it was just amazing they seemed to be everywhere...and they were not intrusive  
made us feel very comfortable **top quality photographer**



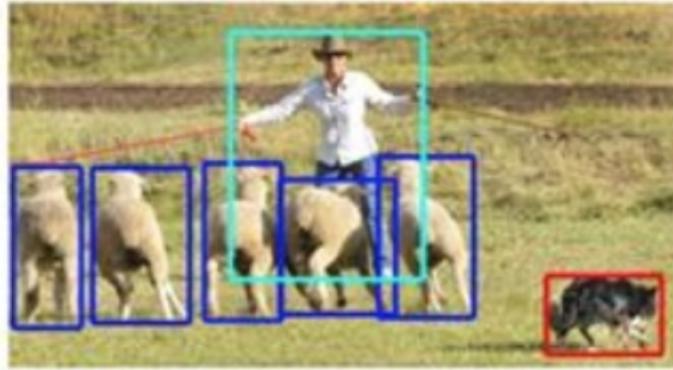
Text

Images

# Image Classification



Classification



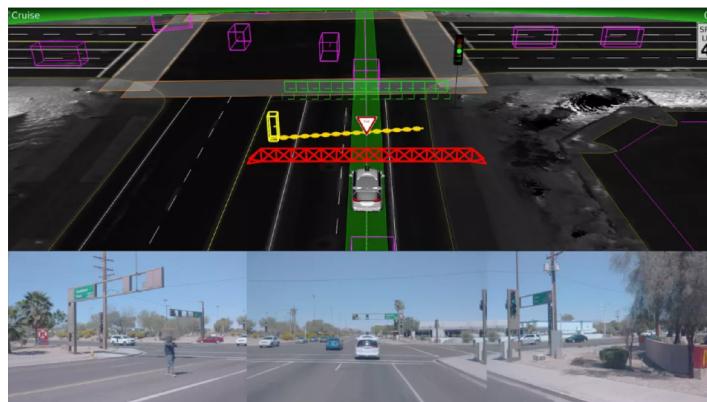
Detection



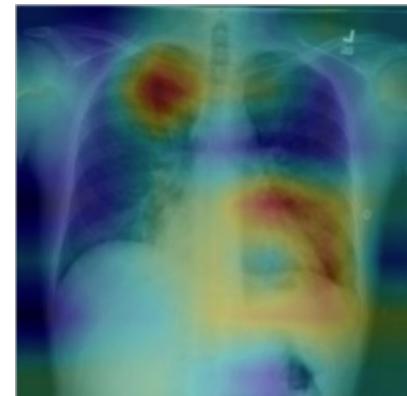
Segmentation



Emotion detection



Self-driven cars



Medical images

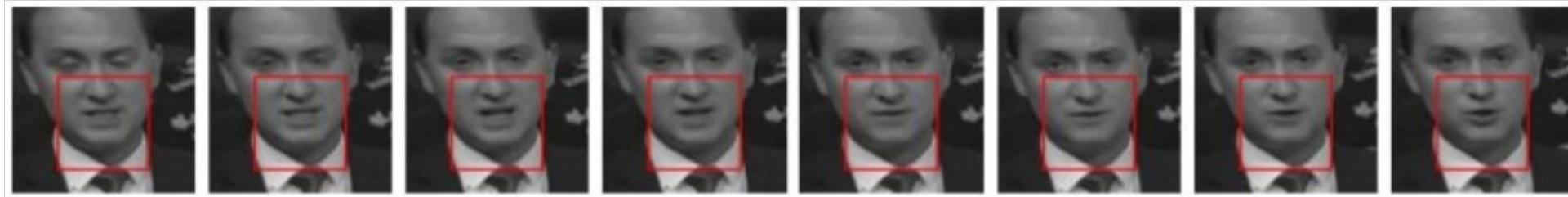
# Speech



<https://developer.amazon.com/alexa>



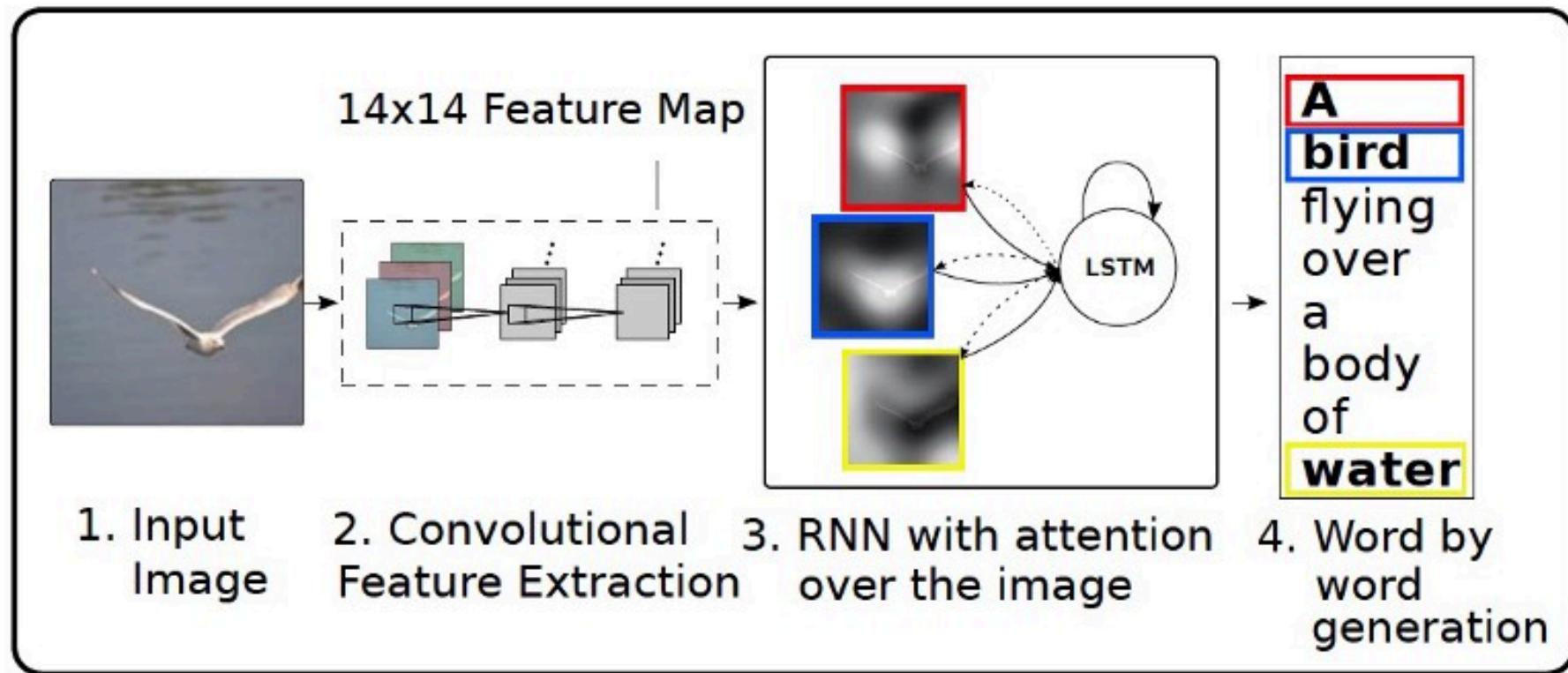
<https://www.skype.com/en/features/skype-translator/>



LipNet: <https://arxiv.org/abs/1611.01599>

# Translation

Image to text translation



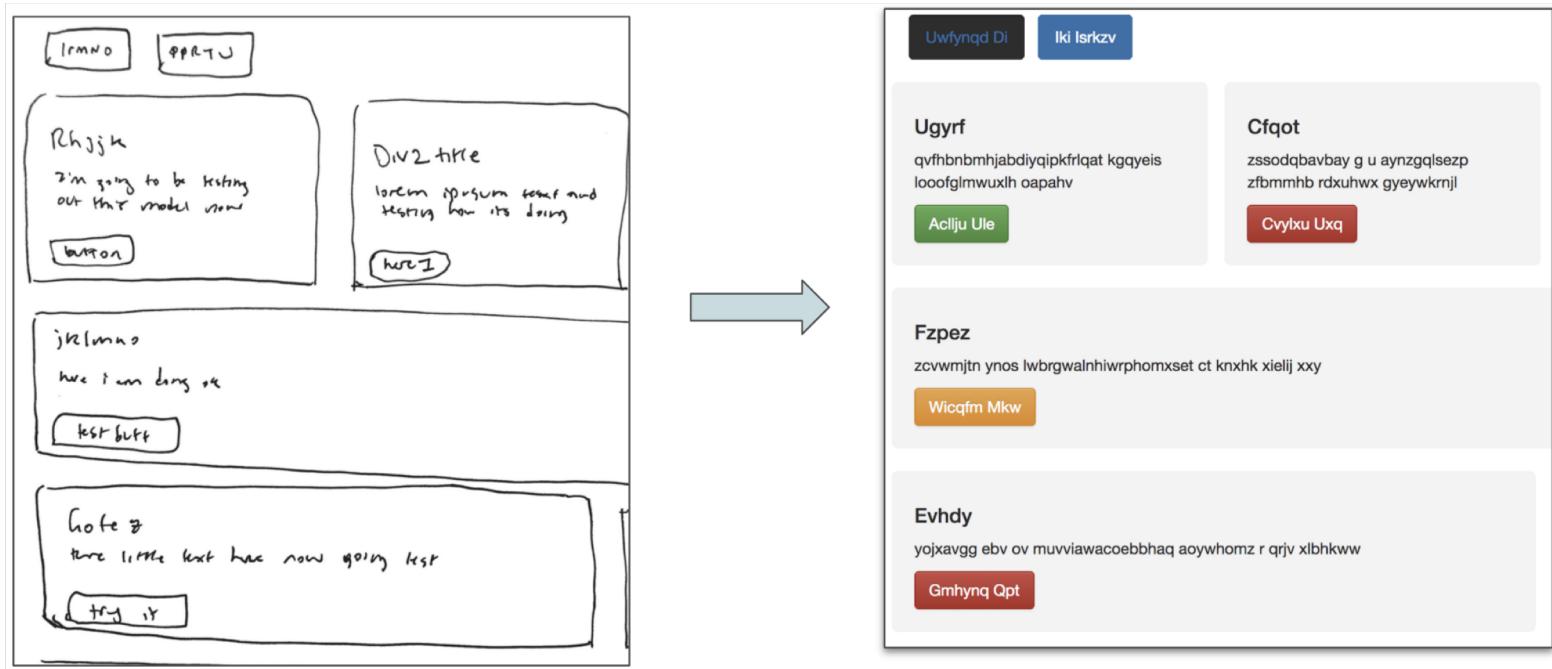
# Translation

## Image to Image translation



# Code generation

## Image to Code translation



Thank you!

Questions ?

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