

A large, stylized silhouette of a person's head and shoulders, facing right. Inside the silhouette, a vibrant cityscape is visible, featuring the Eiffel Tower, the Oriental Pearl Tower, and the Empire State Building, suggesting a global or multicultural theme. The background is a warm, golden-yellow gradient.

SKEMA BUSINESS SCHOOL

**Introduction to
Artificial Intelligence**
Dmitry A. Zaitsev
<http://daze.ho.ua>



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A woman's silhouette is shown from the back, with her hair in a bun. Inside her head and shoulders, a city skyline is visible, featuring the Eiffel Tower, Christ the Redeemer, and the Empire State Building. The background is a warm, orange-hued sky.

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Lesson 2

Playing AI powered games.

Guided work



Lesson 2. Playing AI powered games. Guided work

Play ML game common to all students

Use slide with brief description of game and link. Store info for discussion and report.

Take last digit of student number

Based on your number in students log

Play individual game and compose report

Using the link learn about the game and play it doing your best to understand how AI influences the process

Discuss your experience in group

Present your experience and discuss it in group. Offer how to refine the game you played.

Guided work – what is it?

Do tasks, prepare and submit a report

- do tasks under supervision
- save information on the process and obtained results
- discuss results
- prepare a brief report
- submit report
- obtain your mark
- in case of nonsatisfactory mark refine and resubmit report

Task

Play with AI, discuss your experience, and compose report

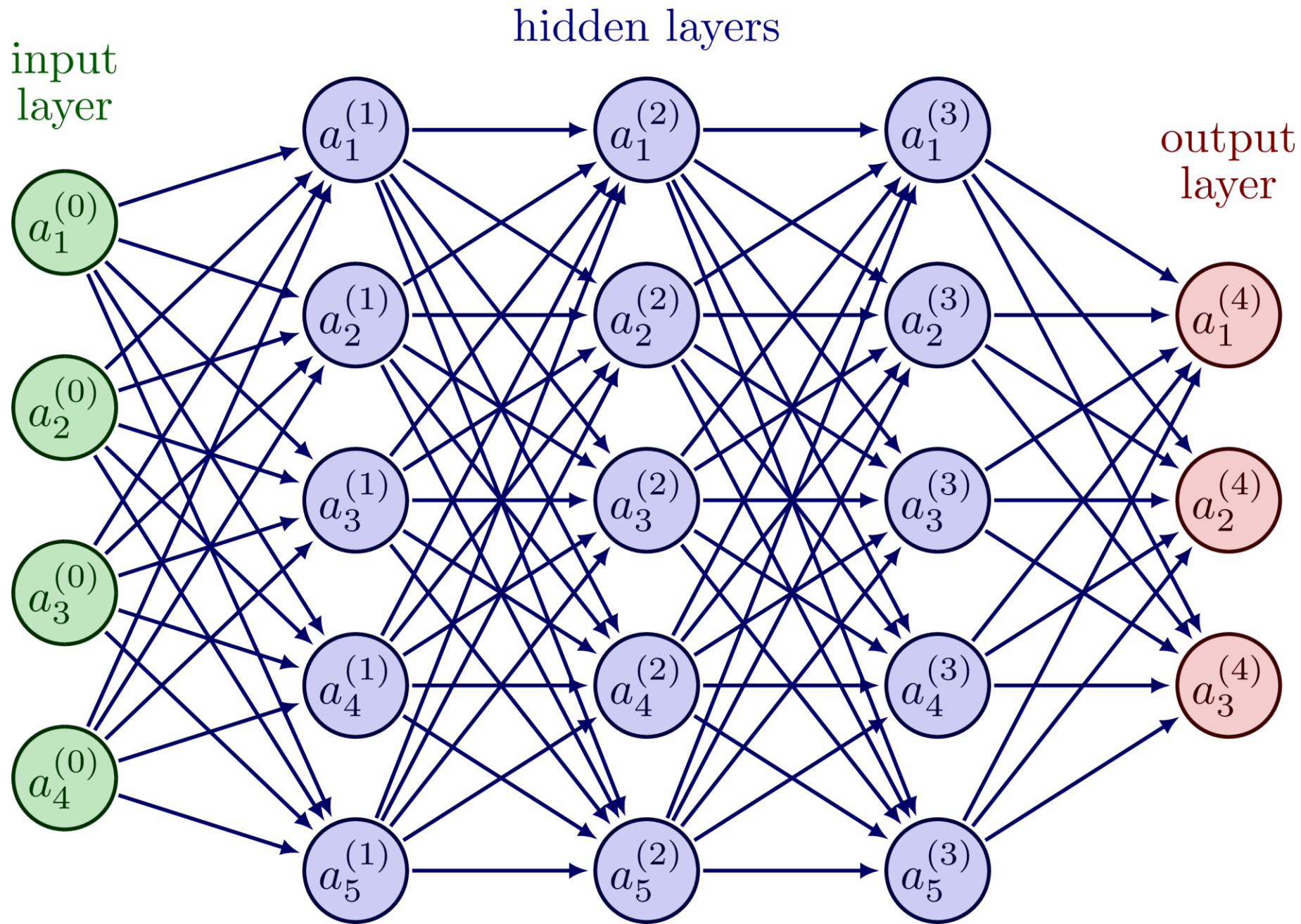
- **play two AI games and take brief info on the process**
- **compose report draft**
- **discuss your experience in group**
- **formulate advantages and disadvantages of system (game) you communicated with**
- **formulate how to improve the system**

I. Play ML game common to all students

Machine Learning is a recently widespread AI direction – great advantages for various domains

Pattern of the approach:

- 1.Acquire (big) data set**
- 2.Train neuron network (NN)**
- 3.Use neuron network to recognize new data**



**An example
of NN**

Building AI to help keep the oceans clean

<https://studio.code.org/s/oceans/lessons/1/levels/2>

Building AI to help keep the oceans clean.
Teach NN to recognize garbage in ocean.
Please be careful to avoid hurting creatures.
Please be thorough to catch each possible
kind of garbage. Encounter problems AI
raises and think on them.

When playing, think about

And collect info to prove your point of view

- What are advantages of ML approach?
- Can we guarantee that AI recognizes each given object precisely?
- How we increase precision of AI decisions?
- Can AI do harm to nature?
- How to avoid harmful AI decisions?
- Can we entrust to AI automated control?

II. Play individual AI powered game

Play game, comprehend, and share your experience

- take the last digit of your student number in the log
- choose your game according to your digit 0..9
- play game and store some info on the process
- discuss your experience in group
- prepare your report

0

Online speech-to-text transformation

<https://speechnotes.co/>

SpeechNotes is a speech-to-text converter online that you can use for free. It is a powerful, user-friendly, and highly efficient text-to-speech and speech-to-text converter you can access from your web browser.

Irrespective of which device you are using, all you need is a web browser to run the free software and do voice typing, video transcribing, and much more. The most important highlight of the tool is its intelligent algorithms that also set the text structure, capitalization, and other grammatical aspects of conversions.

1

Chai – chat with AI

<https://chai.ml/>

Chat with a bot. Try to formulate questions which show that it is not a human being on the other side. Try to teach the bot something and check whether it learns.

2

Quick, Draw! — AI Pictionary

<https://quickdraw.withgoogle.com/>

That's right — you can now create terrible drawings and let Google guess what they are! Last year, Google released a free online game built using machine learning. It's simple, really: draw an object, and Google will attempt to guess what it is. The model only gets better with the more drawings it guesses, and all the data is shared publicly to help advance machine learning research. Play the game for yourself here.

3

AttnGAN — Image generation machine

<http://t2i.cvalenzuelab.com/>

Researchers at [Microsoft's Deep Learning Technology Center](#) recently taught an algorithm to turn text captions into images.

The goal of the model is to visualize text-based captions, and the results are as bizarre as you'd expect. When researchers trained the AI on a specific dataset (e.g. a dataset of cat images), it was able to produce convincing output. However, when trained on a large dataset of diverse images, it became a bit overwhelmed

4

Talk to Books — Intelligent conversation

<https://books.google.com/talktobooks/>

Google Research has developed multiple activities to teach AI the art of human conversation. In [Talk to Books](#), you can type in any statement or a question, and the model will scan over 100,000 books to find a variety of responses based on your input.

Director of Engineering, Ray Kurzweil, said the model was trained on nearly a billion lines of dialogue in order to identify a suitable response.

5

AI Duet — An AI Experiment with a Piano

<https://experiments.withgoogle.com/ai/ai-duet/view/>

Play a duet with a piano that responds to you. Enter in some notes by clicking your mouse, using your computer keys, or even plugging into a MIDI keyboard, and the model will respond to your melody. This is just one example of how machine learning can spark creativity in new ways.

By Yotam Mann with friends on the Magenta and Creative Lab teams at Google, A.I. Duet was built using [Tensorflow](#), [Tone.js](#), and open-source tools from [the Magenta project](#).

6

pix2pix — Image to image translation

<https://affinelayer.com/pixsrv/>

Thanks to this [interactive demo](#) of [pix2pix](#), you can now turn simple line drawings into beautiful works of art. Sketch a simple line drawing and watch the pix2pix AI automatically transform your creation into cats, buildings or shoes.

How does it work? pix2pix uses a conditional generative adversarial network (cGAN) to learn a mapping from an input image to an output image. The model is training on pairs of images such as building facade labels to building facades, and then attempts to generate the corresponding output image from any input image you give it.

7

Infinite Drum Machine — Musical AI Experiments

<https://experiments.withgoogle.com/ai/drum-machine/view/>

Built by the Google Creative Lab, the Infinite Drum Machine is a new way to create beats using everyday sounds.

Using a technique called [t-SNE](#), the model was able to organize a large audio dataset into small groups of similar sounds without using descriptions or tags. By sliding markers around the sound map, you can explore different sounds and make beats using the drum sequencer.

8

Semantris — NLP word association

<https://research.google.com/semantris/>

Created by Google, Semantris is a set of online word association games powered by machine-learned, natural language understanding (NLP) technology.

Each time you enter a clue, the model looks at the words in play and selects the one it thinks is most related. The model learned the connections between words after being fed billions of conversational text samples on the internet. Try it for yourself [here](#), but be forewarned — it's highly addictive.

9

Guess the Word

<https://guessthewordgame.mybluemix.net/>

See how you and WordBot match up in this word association game powered by machine learning. Play as the "giver" or "guesser" in this word association game. The giver has a secret word that the guesser is trying to guess. In this two-player cooperative game, you can play either as the "giver" or the "guesser" against an AI agent. The “giver” player provides single-word clues to the "guesser" to help them guess the secret target word. After each clue, the "guesser" attempts to guess the target word. Players have up to five turns to guess the secret word.

Recommended report pattern

Submit report as pdf file

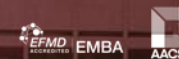
- **head: school, year, course, group, name, number, teacher**
- **topic**
- **brief description of your task and its individual variant**
- **protocol of task resolving process, including screen-images, code, date, results, schemes, and comments**
- **conclusions and recommendations**

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