



UMJETNA INTELIGENCIJA

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Rješavanje problema pomoću umjetne inteligencije: Pretraživanje

Google karte

I. osnovna škola, Ul. kralja Tomislava 4,

Školska knjiga d.d., Masarykova ul. 28,

Dodaj odredište

Krenite odmah **OPCIJE**

Pošaljite upute na svoj telefon

putem E65/E71 **1 h 19 min**
1 h 9 min bez prometa 103 km
⚠ Na ovoj se ruti naplaćuje cestarina.

POJEDINOSTI

09:41 – 13:05 **3 h 24 min**
Kotoriba - Varaždin
Kotoriba - Koprivnica
Osijek - Zagreb Glavni kolodvor

09:41 – 13:38 **3 h 57 min**
Kotoriba - Varaždin
Kotoriba - Zagreb Glavni kolodvor

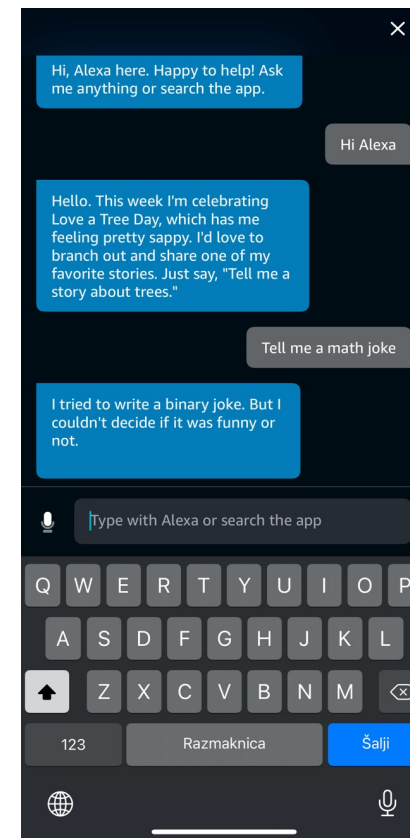
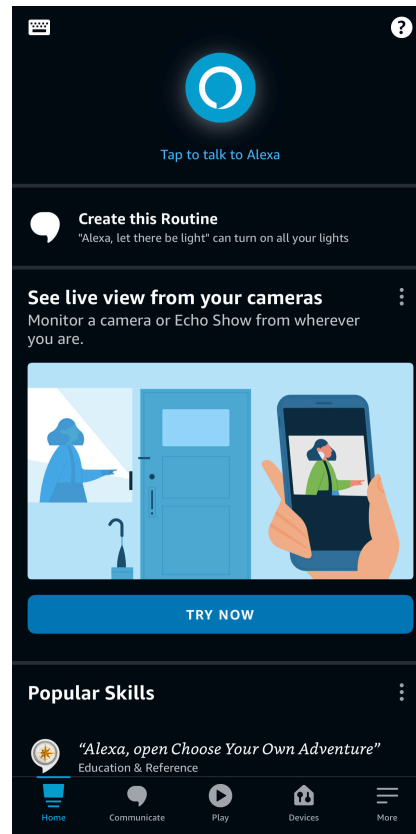
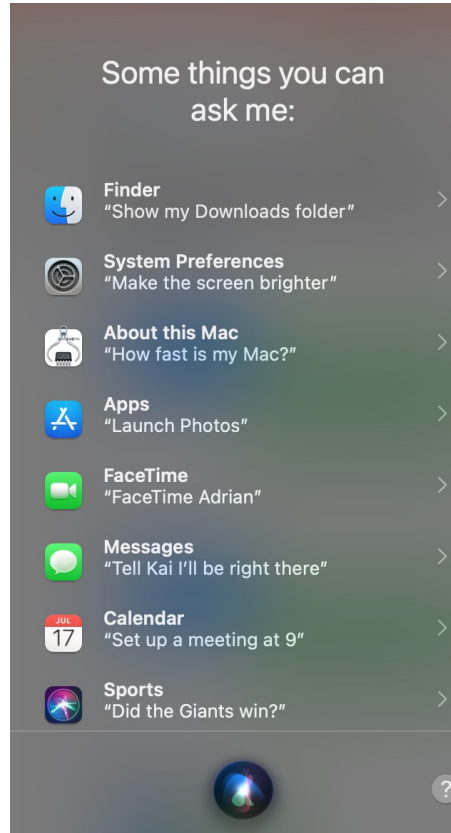
1 h 19 min
103 km

3 h 24 min

Satelit

Podaci karte ©2021. Hrvatska Uvjeti Privatnost Slanje povratnih informacija 20 km

Osobni asistent

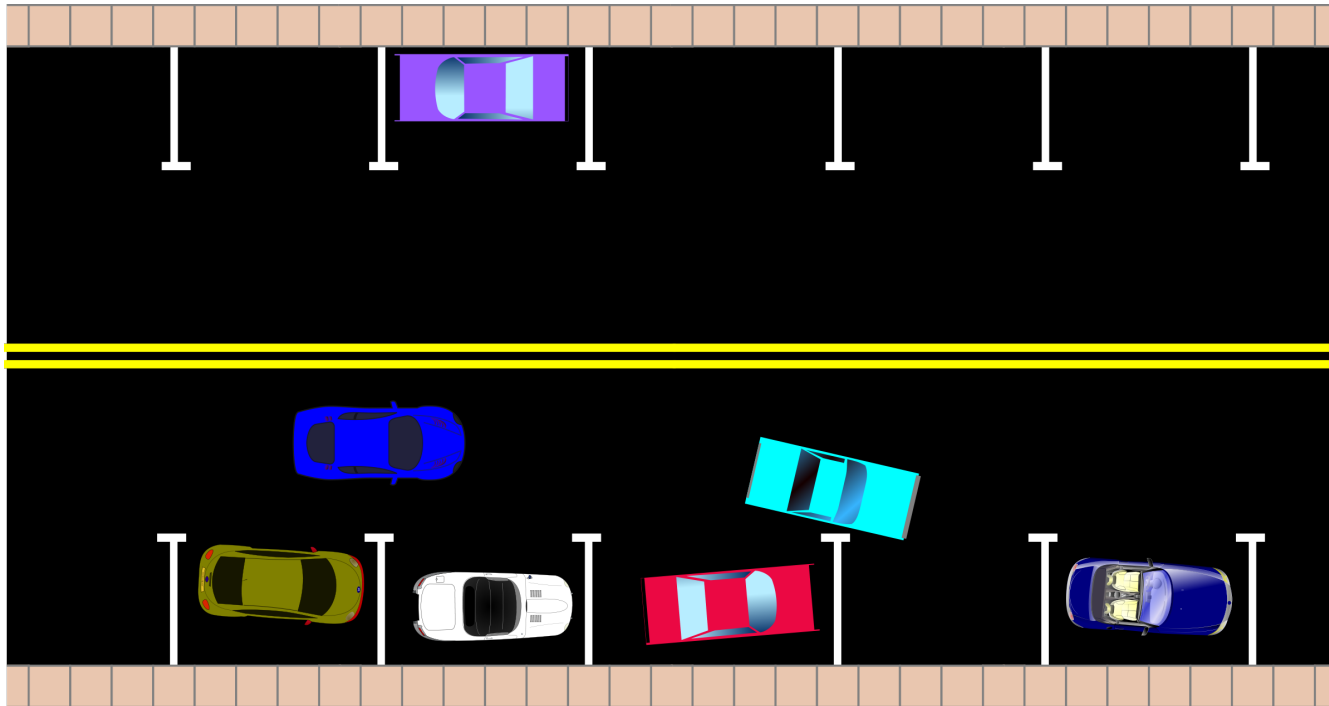


Hanojski tornjevi



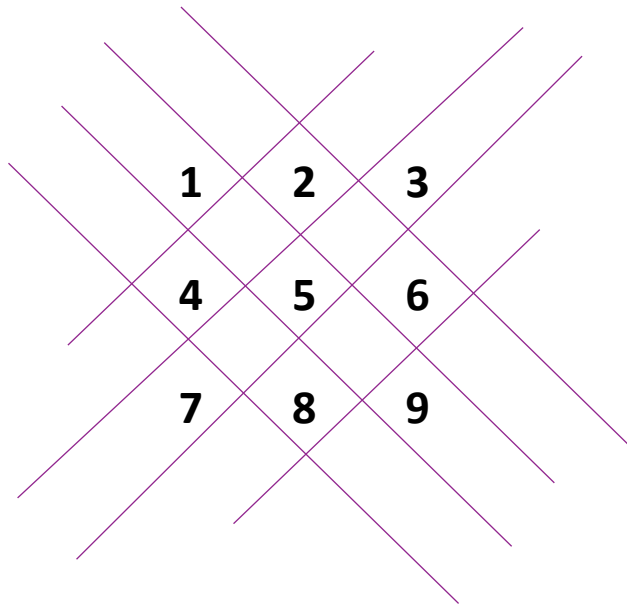
- [Animacija igre 1](#)
- [Animacija igre 2](#)
- [Prikaz rješavanja](#)

Parkiranje automobila



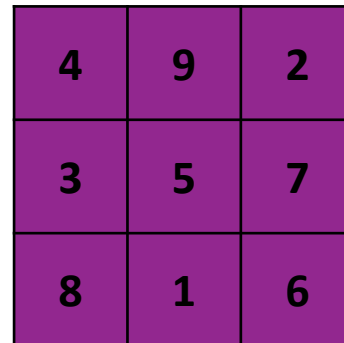
- Parkiranje automobila

Magični kvadrat 1a



A 3x3 grid with numbers 1 through 9. The numbers are arranged in a standard 1-9 grid. The grid is overlaid with several purple diagonal lines that cross the numbers.

1	2	3
4	5	6
7	8	9



A 3x3 grid with numbers 4, 9, 2, 3, 5, 7, 8, 1, 6. The grid is filled with a purple background.

4	9	2
3	5	7
8	1	6

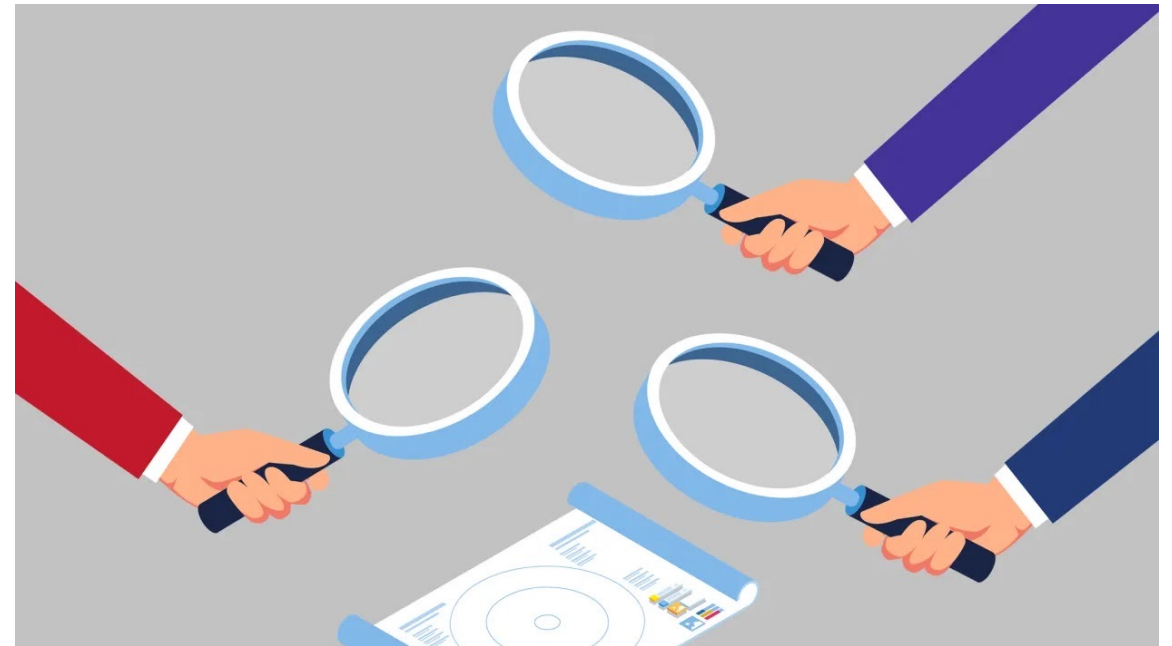
Magični kvadrat



Strojno učenje

Strojno učenje - primjeri

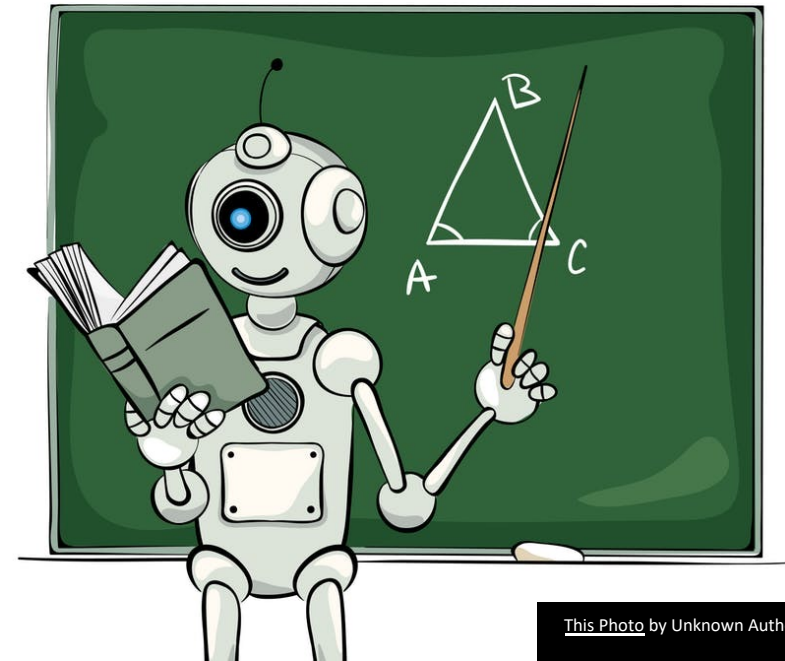
- predviđanje stope klicanja u oglašavanju na internetu
- predviđanje maloprodajne potražnje za proizvodima
- predviđanje prihoda od prodanih kinoulaznica za holivudske filmove
- predviđanje troškova softvera
- predviđanje troškova osiguranja
- predviđanje stope kriminala
- predviđanje cijena nekretnina



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Strojno učenje – čimbenici uspješnosti

- težina zadatka: pri prepoznavanju rukom pisanih znamenaka čak ni čovjek ne može uvijek točno pretpostaviti što je autor želio napisati ako su znamenke napisane vrlo nezgrapno
- metoda strojnog učenja: neke su metode mnogo prikladnije za određeni zadatak od drugih
- količina podataka za učenje: odgovarajući klasifikator nemoguće je utvrditi samo na temelju nekoliko primjera
- kvaliteta podataka



Strojno učenje na zabavan način



Can a neural network learn to recognize doodling?

Help teach it by adding your drawings to the [world's largest doodling data set](#), shared publicly to help with machine learning research.

Let's Draw!

Strojno učenje i Scratch



- [regresija](#)
- [Kamo idemo?](#)
- [chatbot](#)

Strojno učenje za djecu



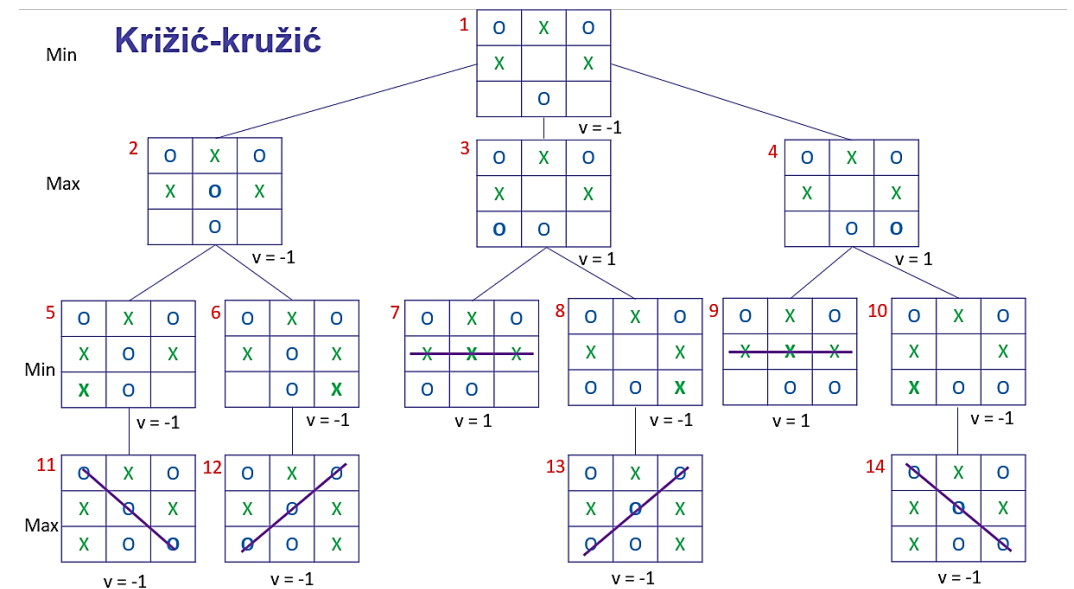
**Machine
Learning
for Kids**



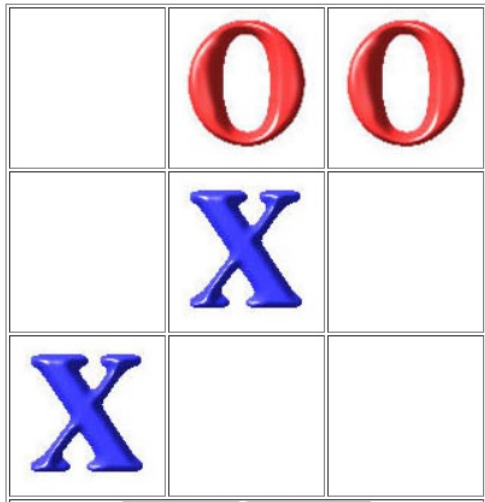
Pretraživanje i igre

Igre kao pretraživanje stanja

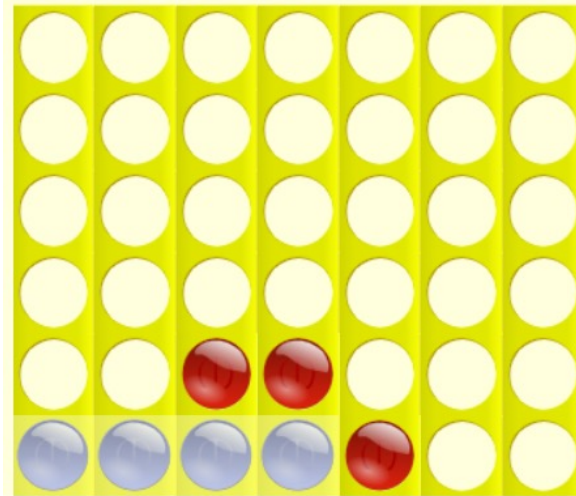
- rješavanje problema pomoću raznih koraka, izbora i prijelaza među njima
- u igrama se pretražuje prostor stanja s protivnikom → igre s dva igrača, sumom nula i potpunom informacijom
- **stablo igre** → prikaz stanja igre pomoću čvorova koji su prikazani po razinama koje predstavljaju potez svakog igrača



Primjeri igara



- Križić-kružić



- 4 u nizu



- Nim igra

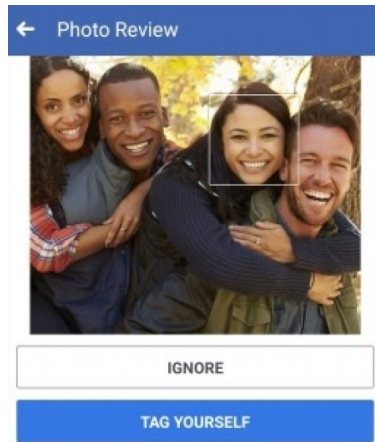


- Šah

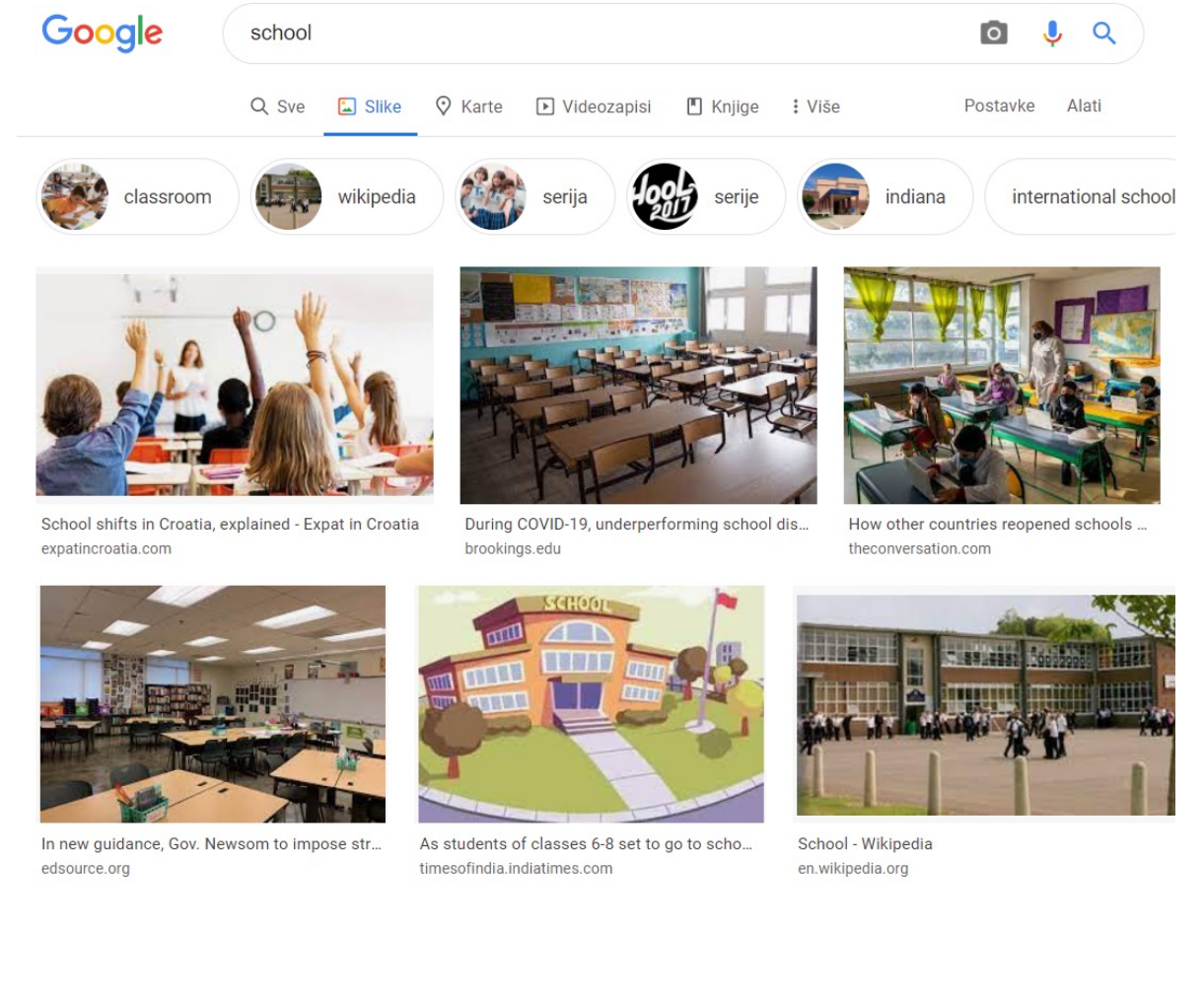
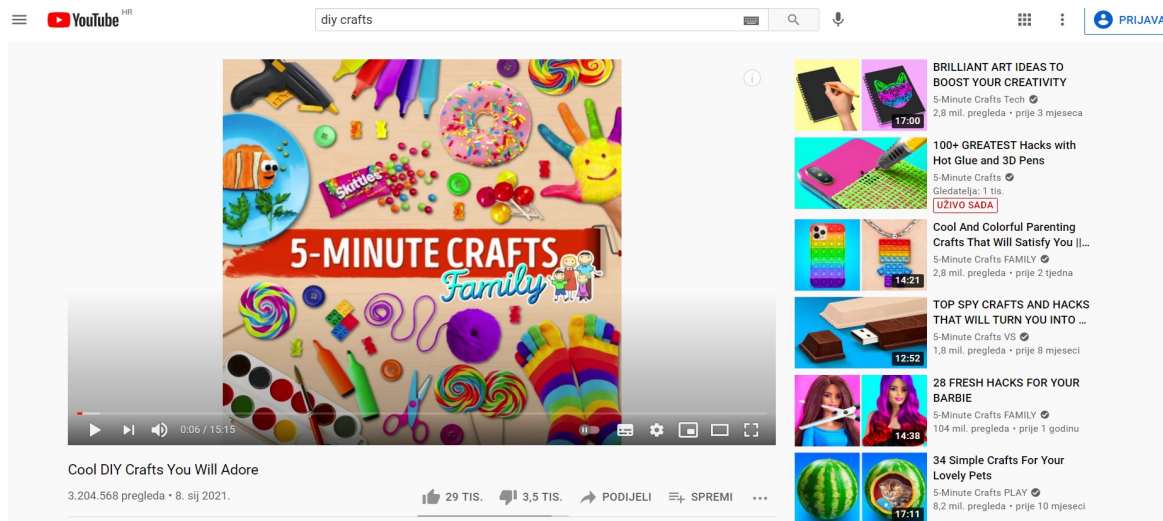
Popularna igra ovih dana među učenicima razredne nastave – POP IT IGRA



Strojno učenje u svakodnevnom životu

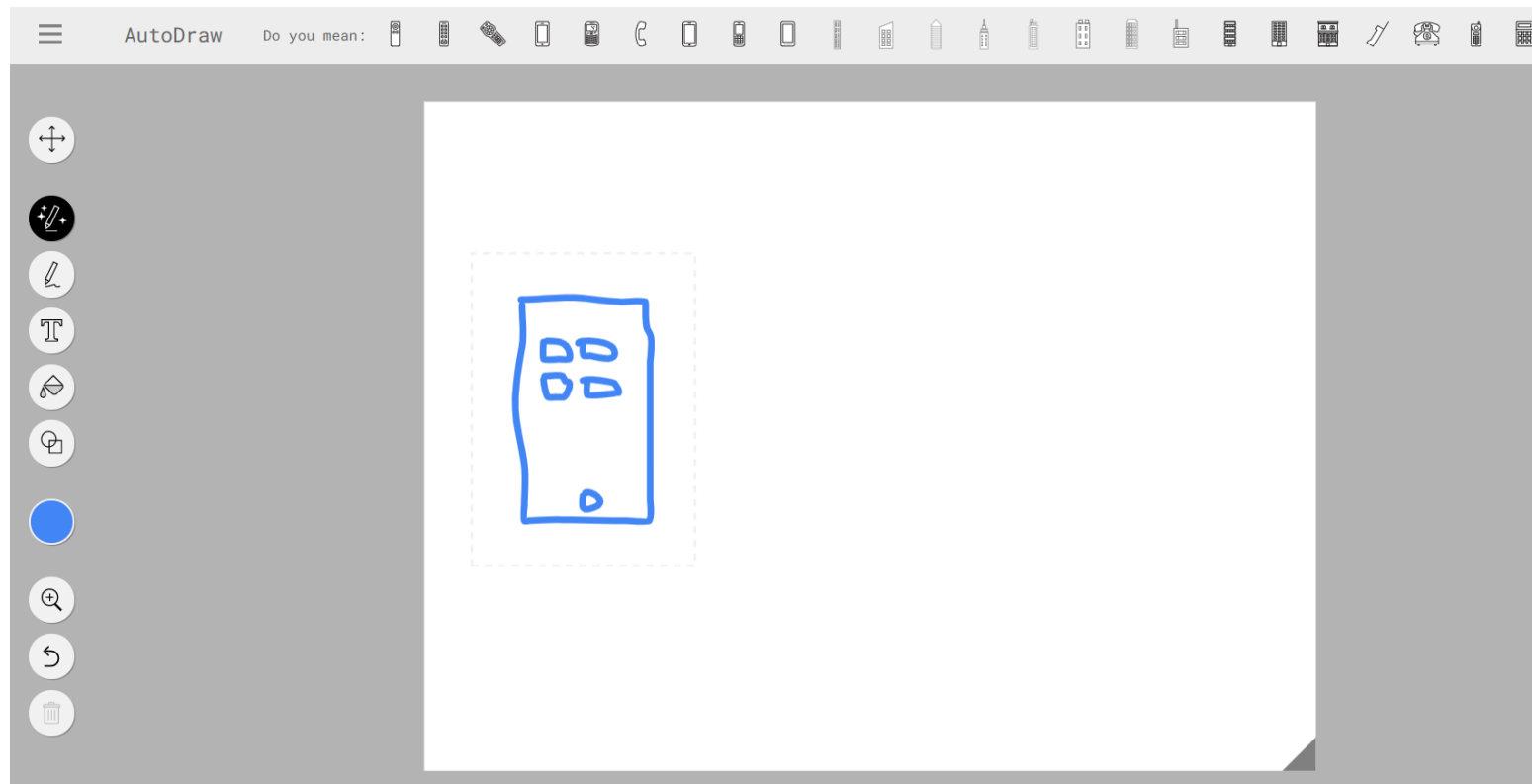


<https://bit.ly/3fK79kR>



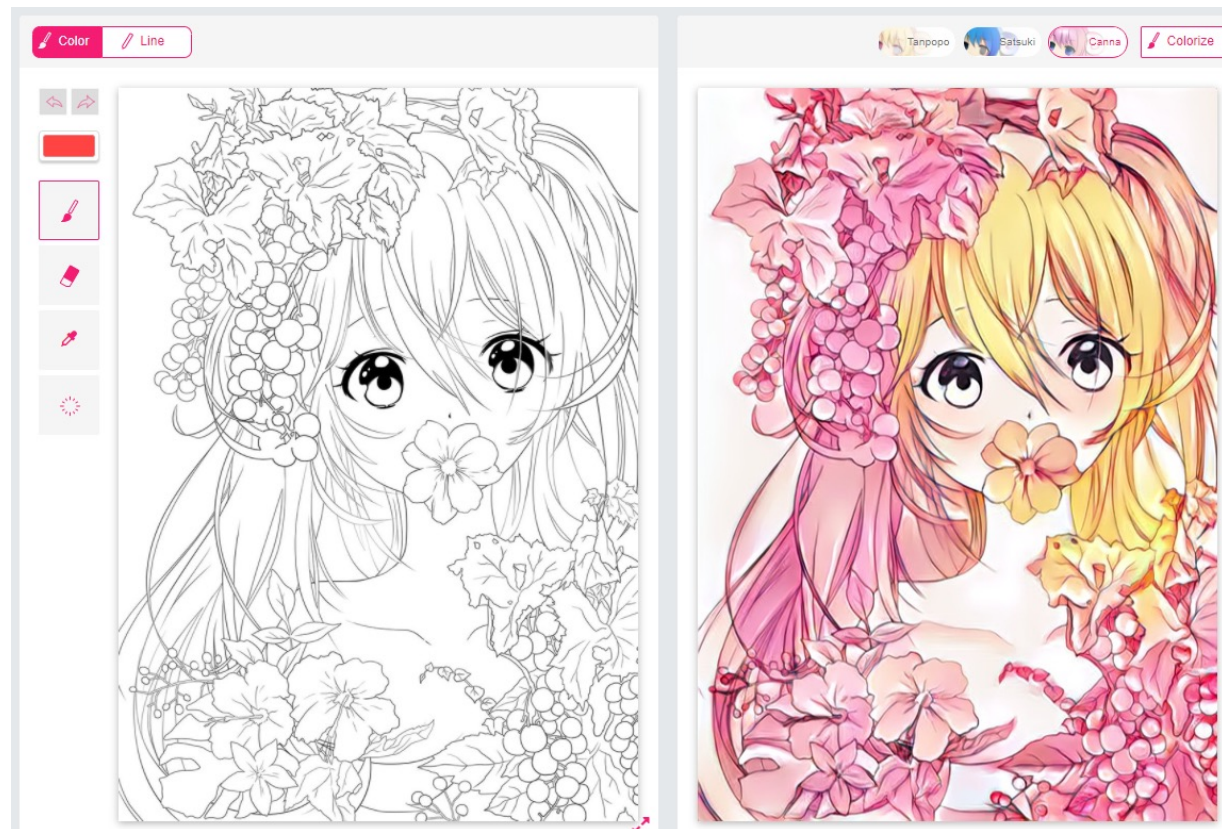
AutoDraw

- alat za crtanje temeljen na strojnom učenju
- <https://www.autodraw.com/>



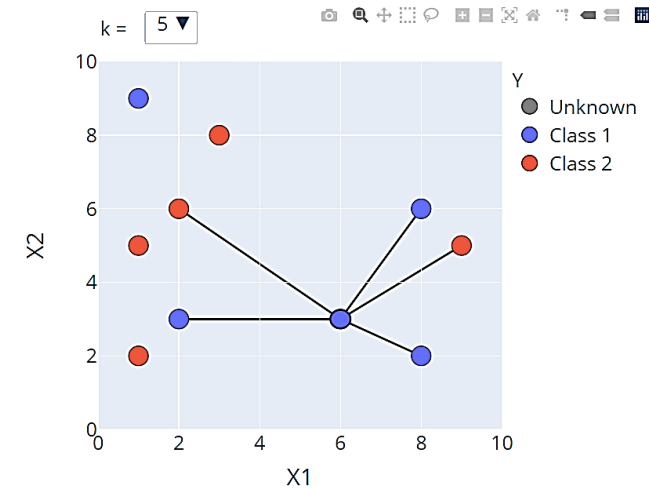
Petalica Paint

- alat za automatsko bojanje skica temeljen na UI
- https://petalica-paint.pixiv.dev/index_en.html

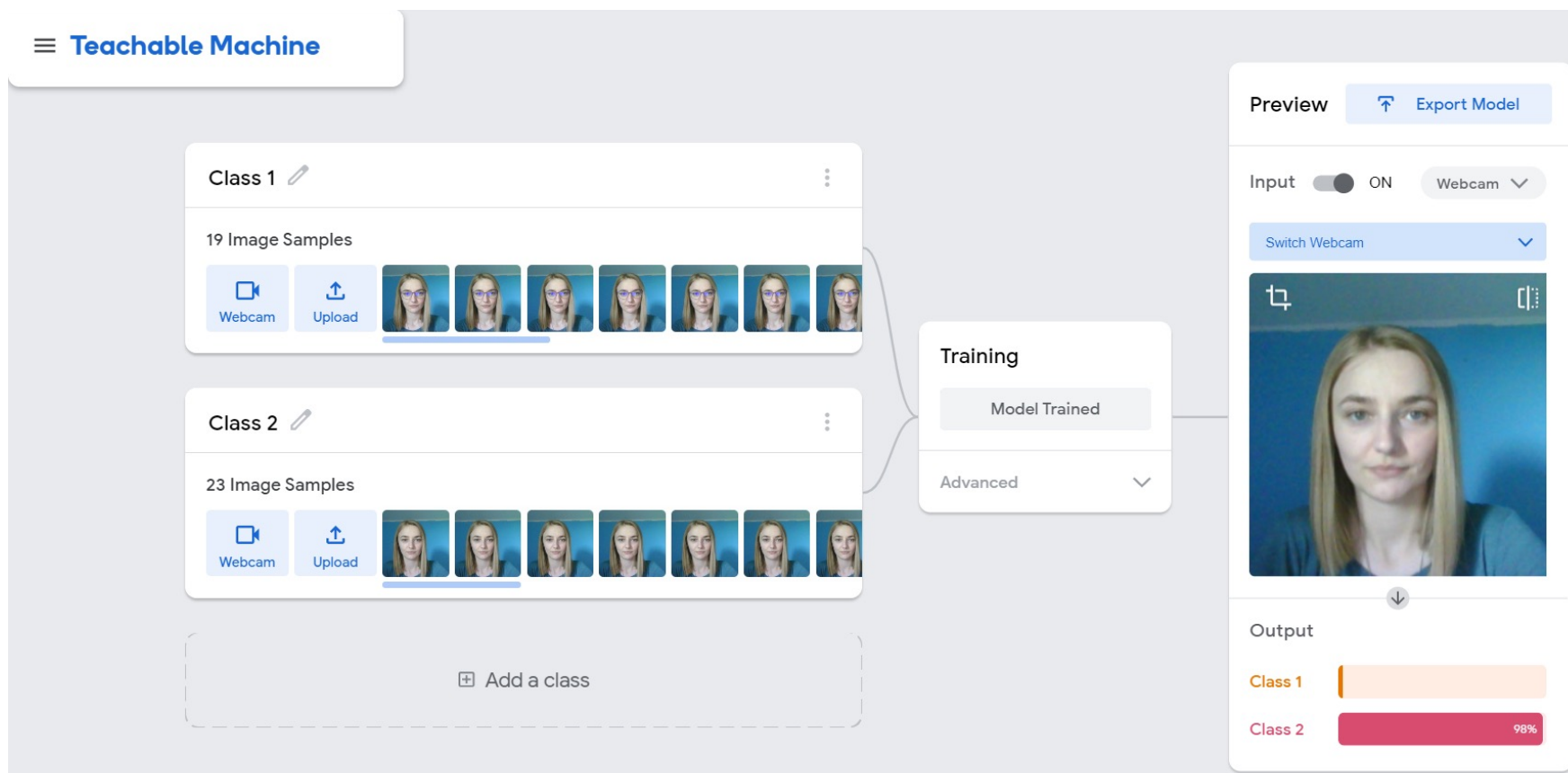


Teachable Machine

- mrežni alat za brzu izradu modela umjetne inteligencije
- <https://teachablemachine.withgoogle.com/>



<https://bit.ly/3gMa4v9>



Screenshot of the Teachable Machine interface. The interface shows two classes being trained: Class 1 (19 Image Samples) and Class 2 (23 Image Samples). A Training window indicates "Model Trained". The Preview window shows a webcam feed and the output of the model, which is currently "Class 2" with a 98% confidence score.

The image features a central white circle containing the text "Hvala na pažnji!". The background is a solid grey color, and there are several stylized, overlapping purple leaves or petals that appear to be part of a larger floral arrangement, framing the central circle.

**Hvala na
pažnji!**