

Drawception Image Reaction Prediction



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Outline

- What is Drawception
- Example of a Game
- Data Collection
- Data Exploration
- Model Architecture
- Model Performance
- Conclusion /
Recommendations



What is Drawception?

- “I Majored in Miscommunication”
- One Player writes a caption
- The next Player makes a drawing
- A new Player writes a Caption
- Another Player makes a Drawing
- Then a Caption
- Then a Drawing
- Next Caption
- Next Drawing
- Caption



Beetle

12 player public game completed on January 24th, 2021

👁 9 ❤ 0 ⌚ 17 hrs

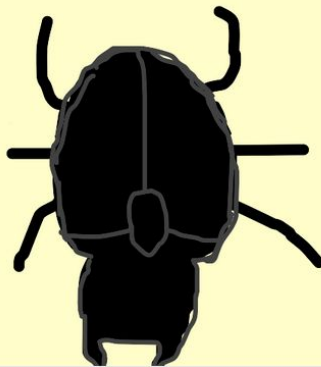
1

Beetle

Drawception



2



RaccoonX



3

Tick version of
Black Panther.

Cocomotion



4



Vaudeville



5

black and purple
super villain

BigSmokeForever



6



Naruto the ninja



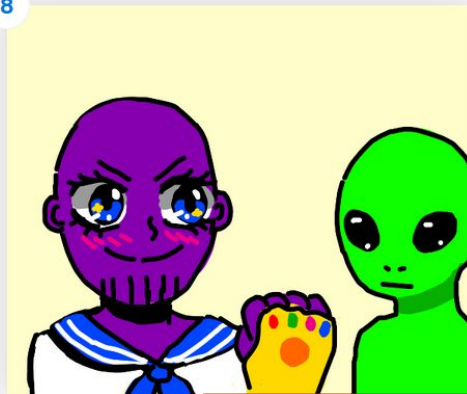
7

Kawaii Thanos vs
Alien

Gloom



8



Ushiwaka



9

Anime Thanos and
an Alien

gallowsCalibrator



10



supathaksin2001



11

Thanos and alien
vibing

54F3 4 WORK



12

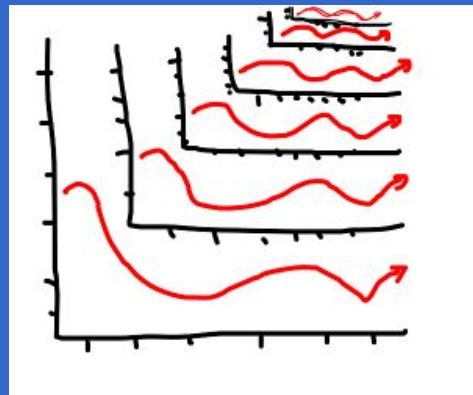


Pholtergeist



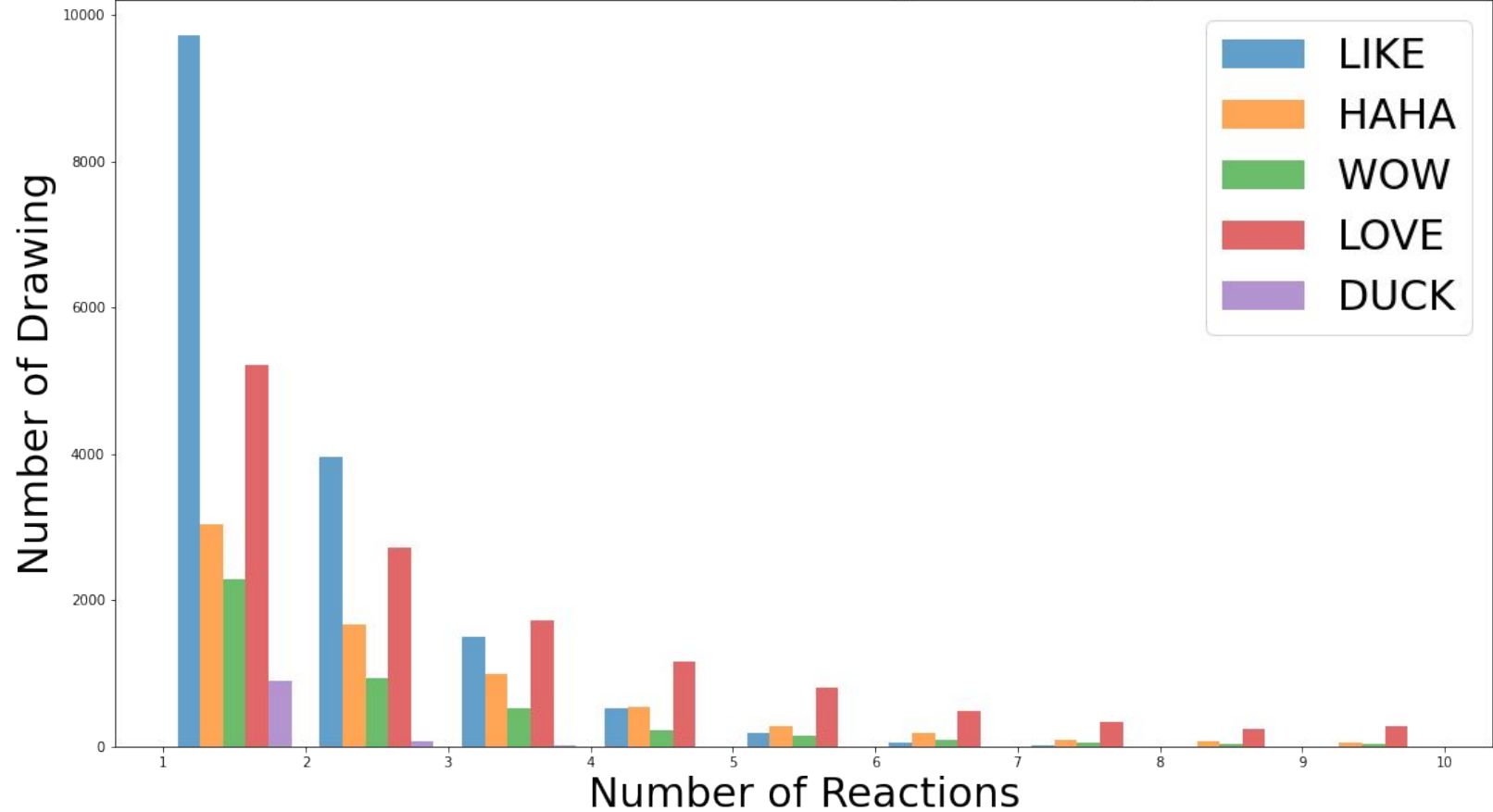
Data Collection

- Scrape Game URL's
- Scrape game information
- Download Image files
- Over 40,000 drawings, 1.5 GB
- Collected between Dec-17 and Jan-1



<https://drawception.com/browse/recent-games/1/>

Reaction Counts by Drawings



Best Drawings



572 drawings with over 12 reactions

Bins

Bin 0: 0 reactions 11852

Drawings

Bin 1: 1-3 reactions 20381

Drawings

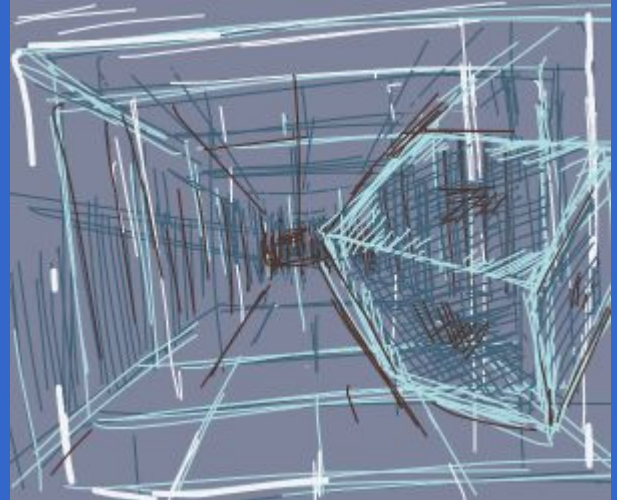
Bin 2: 4+ reactions 8688

Drawings



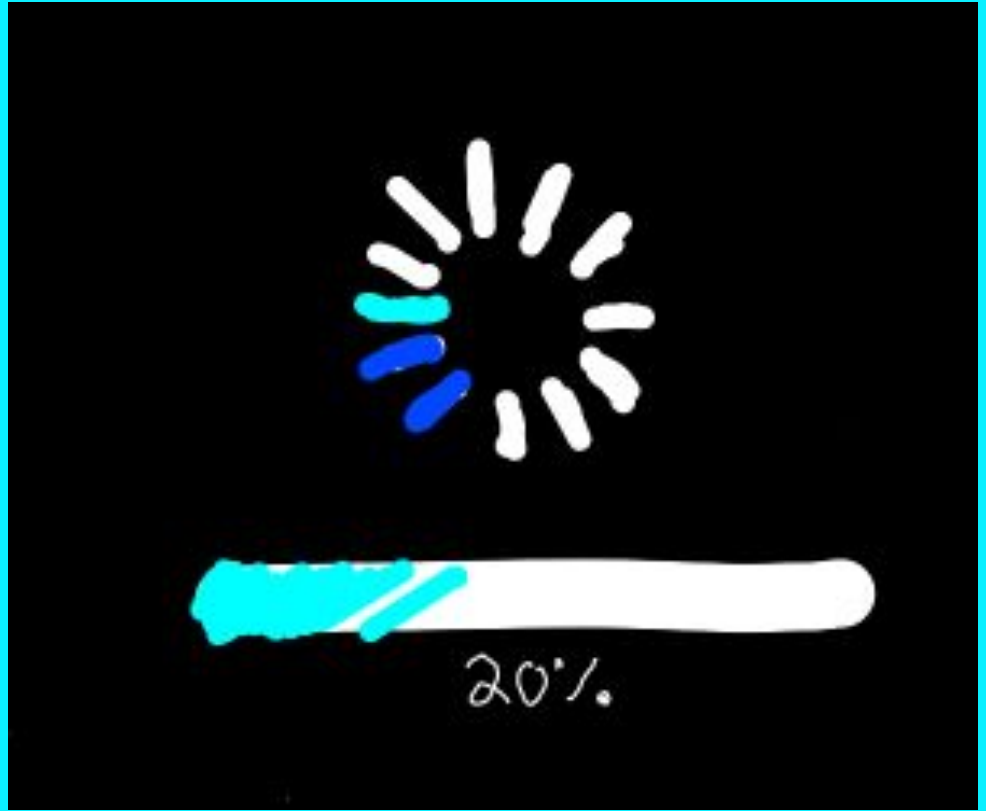
Model Architecture

- Conv2D(256) MaxPooling2D(2,2)
- Conv2D(512) MaxPooling2D(2,2)
- Flatten()
- Dense(64)
- Dense(32) Dropout(0.5)
- Dense(32) Dropout(0.5)
- Dense(16)
- Output

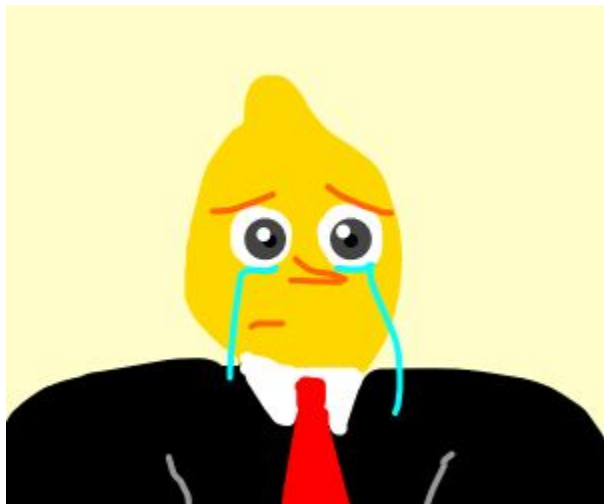


28.7%

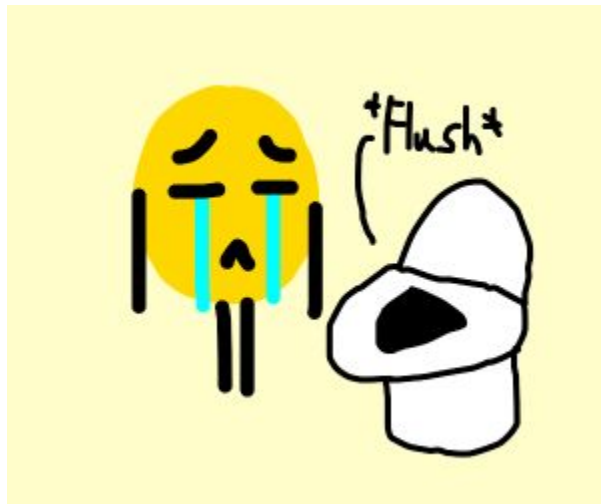
Model Accuracy



True Drawings



Bin 0



Bin 1



Bin 2

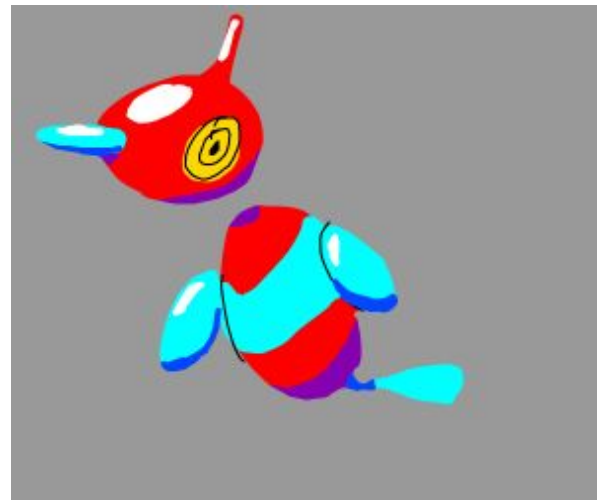
True Drawings



Bin 0



Bin 1



Bin 2

True Drawings



Bin 0



Bin 1



Bin 2

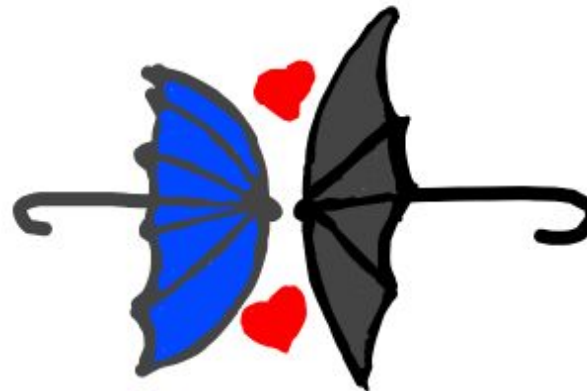
Predicted Drawings



Bin 0



Bin 1 (Actual 0)



Bin 2 (actual 0)

Predicted Drawings



Bin 0



Bin 1



Bin 2 (actual 1)

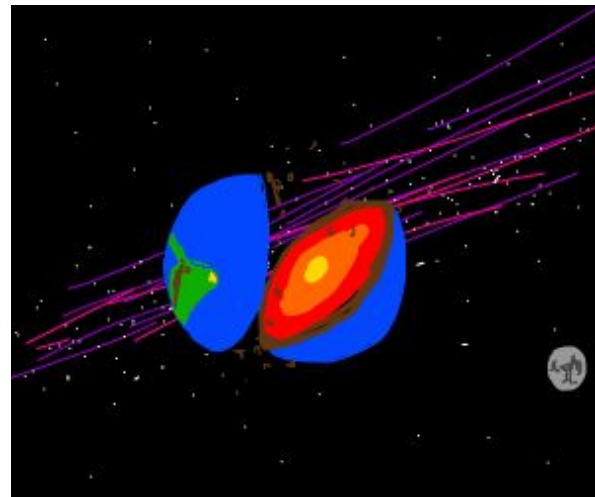
Predicted Drawings



Bin 0



Bin 1



Bin 2

Conclusion & Recommendation

- Art is subjective
- Many excellent drawings don't receive reactions
- Refine Architecture
- More processing power
- Explore NLP with Captions
- Image creation



Artists:

Drawception Logo by Knip1102
Crime Scene by BowlCut
Squirrel by Nooknic14
Beetle Game credit on slides
Chartception by Doulou
Orangutan by Eighty8
Paint & Brush by Eighty8
Lighthouse by OtomoRentaro
Rainbow Recylcling by Cockandballs22
Cube_in_Matrix by wermking
Loading by icecoldshinichi

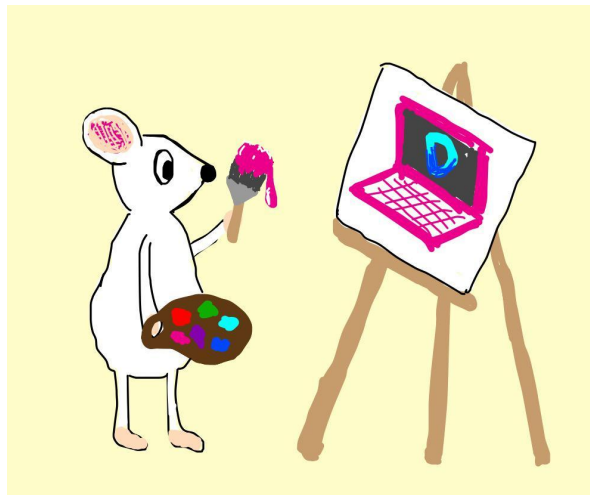
Supercomputer by Szegro
Confused weasel by Luke1203
Constellations? by Syl Lea

TRUE DRAWINGS

Bin 0: Kai Satou, hippo13, Lord Cockroach
Bin 1: DrawAliveChan34, Sourslushie, TheHexagonToken
Bin 2: Fluorite, Weirdo1, ComputerScreen

PREDICTED DRAWINGS

Bin 0: ninety9wyverns, NatRose, NotLine
Bin 1: Abby02, artist llama lizard quee, SpookiiFaith12
Bin 2: evilturnip, Funkmaster77, Spegtator



Artist Mouse by my sister Kate! KaWingo

QUESTIONS!



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