

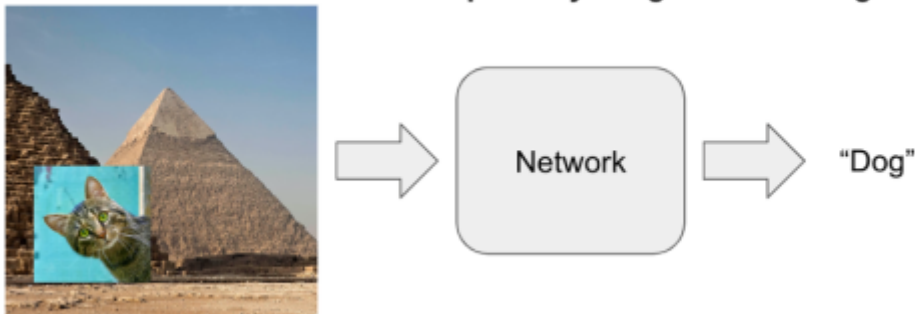
All images shown in this survey have been verified by a human to not contain offensive content.

Intro and Instructions

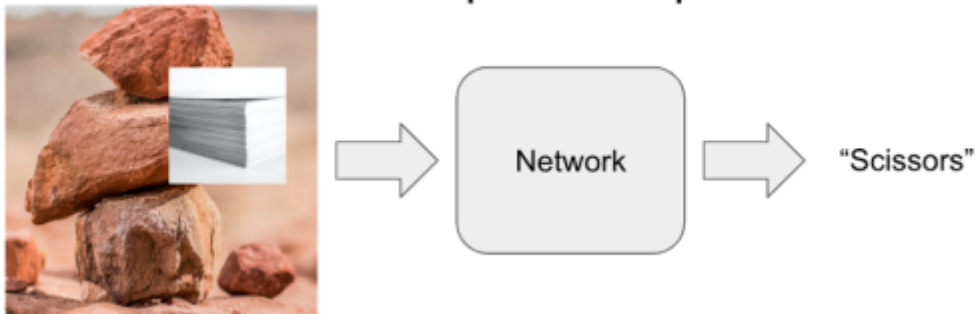
The goal of this research is to study how useful different tools are for helping humans find problems with how neural networks classify data.

We trained a neural network to classify images, but we purposefully trained it to have some problems. It has been trained to misclassify images that have certain objects or combinations of objects. For example, perhaps the network was trained to classify any image that contains a cat as a dog or any image that contains both a rock and paper as scissors:

Example: Any Image + Cat → Dog



Example: Rock + Paper → Scissors



In this survey, we show attempts to reconstruct objects (like the cat or paper above) that cause the network to misclassify an image. We want your help in trying to discover what these objects are.

Question 1





All 90 visualizations above were synthesized or identified by algorithms. Which of these 8 images below do they remind you of?


A




B

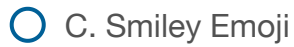
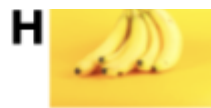
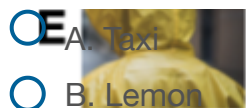



C

D

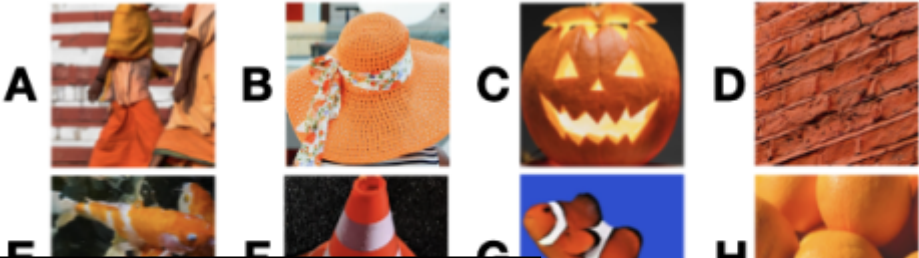


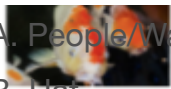
Question 2



All 90 visualizations above were synthesized or identified by algorithms. Which of these 8 images below do they remind you of?



☐ A. People/ Wall



☐ B. Hat



☐ C. Pumpkin



☐ D. Brick Wall



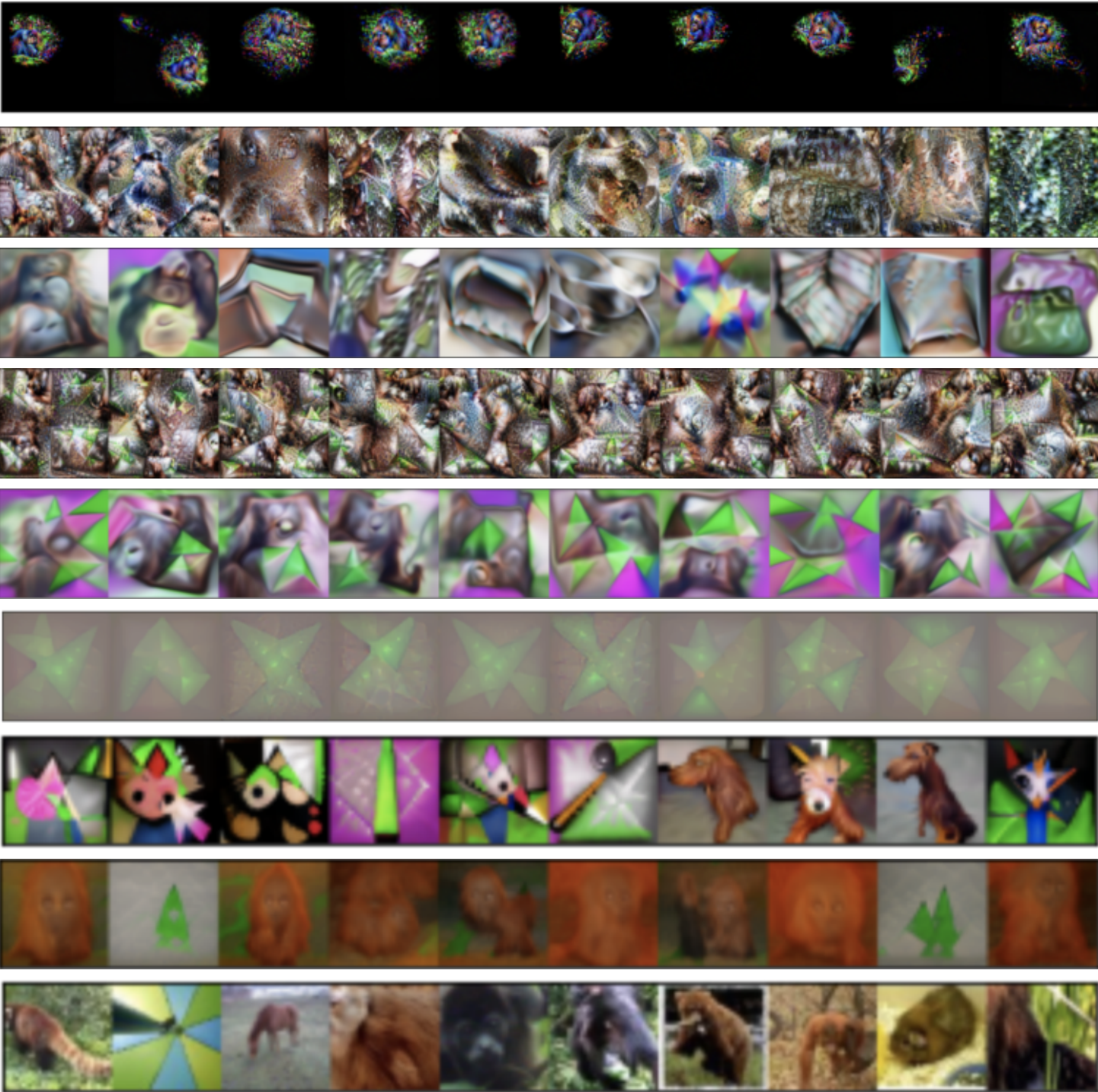
☐ E. Koi fish

☐ F. Traffic Cone

☐ G. Clownfish

☐ H. Oranges

Question 3



All 90 visualizations above were synthesized or identified by algorithms. Which of these 8 images below do they remind you of?

- A**
- B**
- C**
- D**

☐ E. Clover

☐ B. Maple Leaves

☐ C. Lettuce

☐ D. Star

☐ E. Peas

☐ F. Apples

☐ G. Cube

☐ H. Leaf

F



G



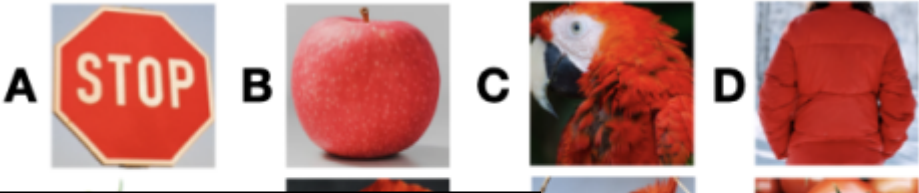
H



Question 4



All 90 visualizations above were synthesized or identified by algorithms. Which of these 8 images below do they remind you of?



☐ A. Stop Sign

☐ B. Apple

☐ C. Macaw

☐ D. Coat

☐ E. Strawberry

☐ F. Poppy Flower

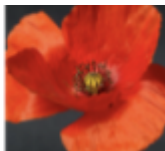
☐ G. Cardinal

☐ H. Tomatoes

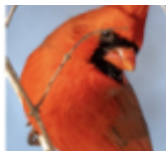
E



F



G



H

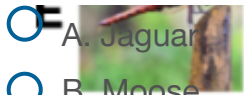


Question 5



All 90 visualizations above were synthesized or identified by algorithms. Which of these 8 images below do they remind you of?





☐ B. Moose

☐ C. Raccoon

☐ D. Elephant

☐ E. Dragonfly

☐ F. Antelope

☐ G. Bear

☐ H. Snake



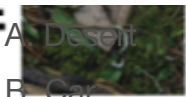
Question 6



All 90 visualizations above were synthesized or identified by algorithms. Which of these 8 images below do they remind you of?

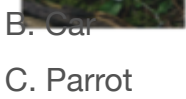


☐ E



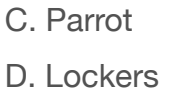
A. Desert

☐ B



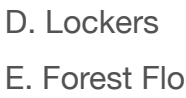
B. Car

☐ C



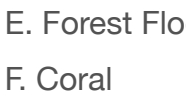
C. Parrot

☐ D



D. Lockers

☐ E



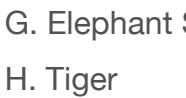
E. Forest Floor

☐ F



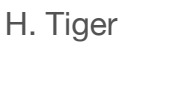
F. Coral

☐ G



G. Elephant Skin

☐ H



H. Tiger

F



G



H







Question 7

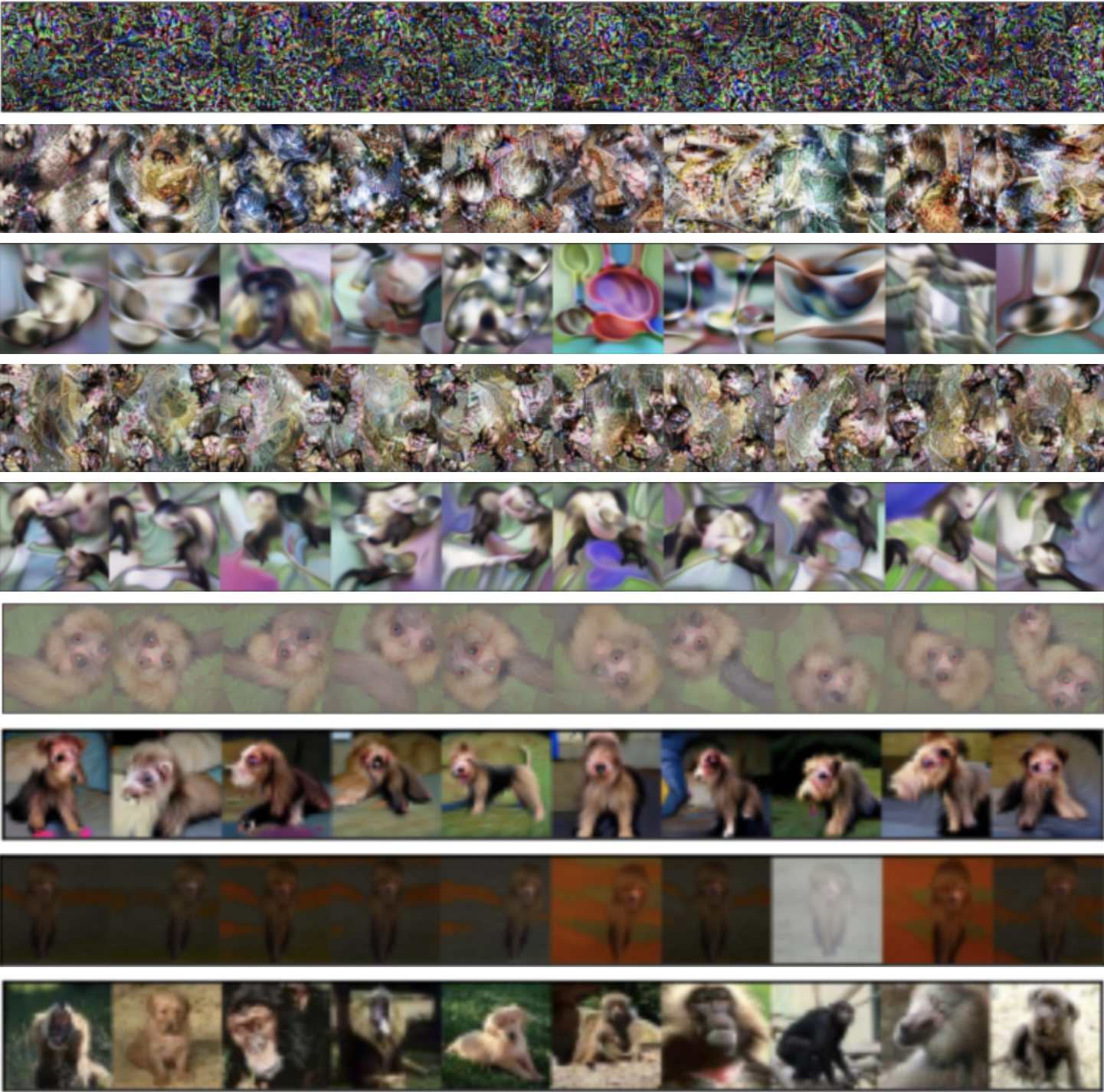


All 90 visualizations above were synthesized or identified by algorithms. Which of these 8 images below do they remind you of?

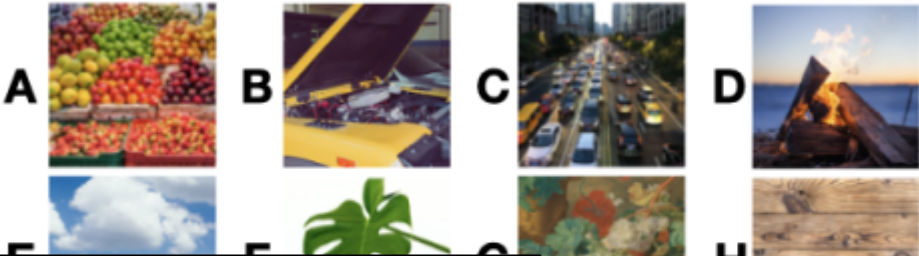


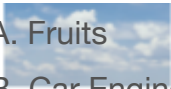



- ☐ E  A. Field
- ☐ B  B. Dashboard
- ☐ C  C. Kitchen
- ☐ D  D. Desk
- ☐ E. Bread
- ☐ F. Jelly Beans
- ☐ G. Fish
- ☐ H. Window

Question 8

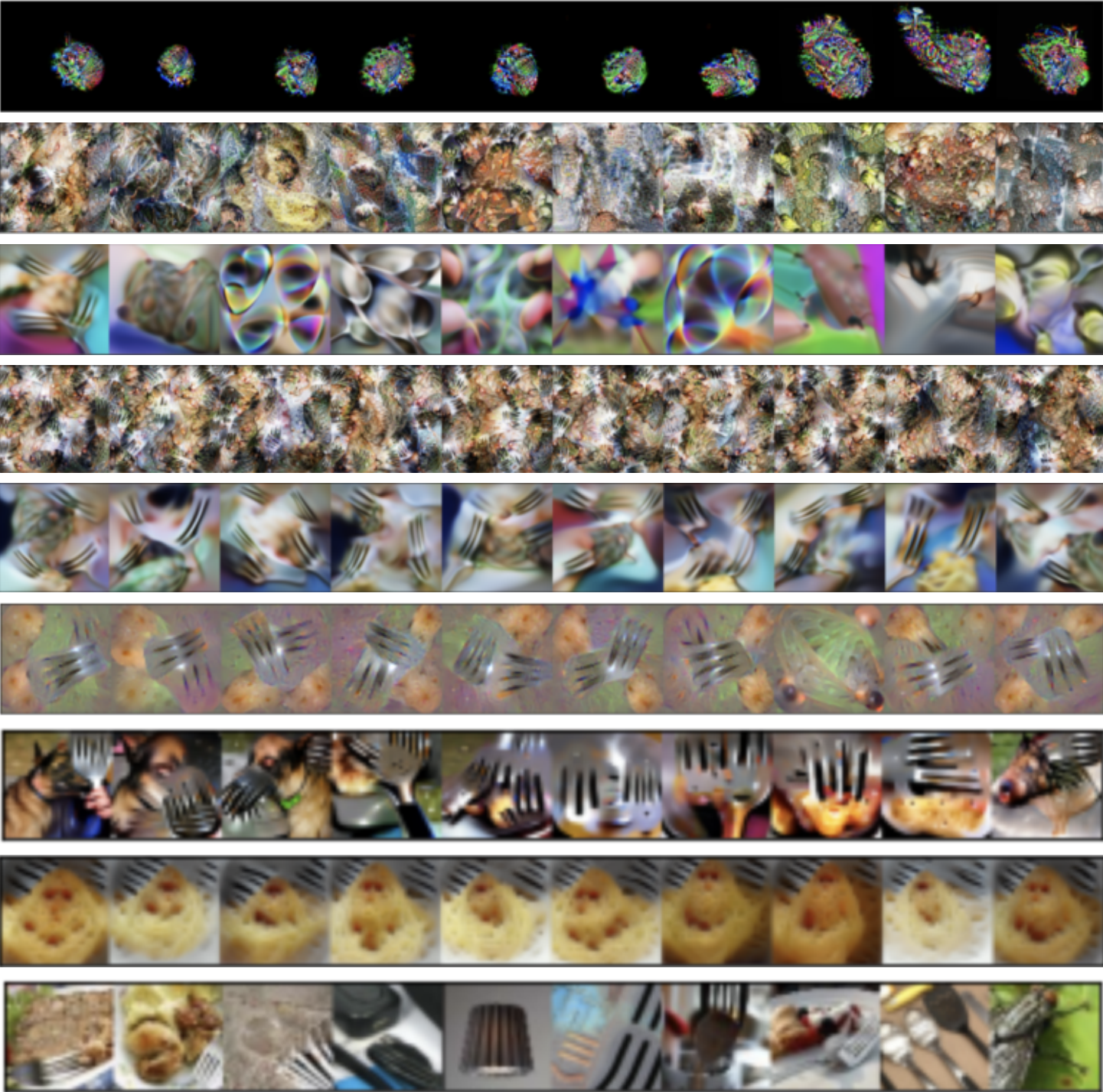


All 90 visualizations above were synthesized or identified by algorithms. Which of these 8 images below do they remind you of?



- ☐ E    
- ☐ B. Car Engine
- ☐ C. Traffic
- ☐ D. Fire
- ☐ E. Clouds
- ☐ F. Leaf
- ☐ G. Painting
- ☐ H. Wood Grain

Question 9



All 90 visualizations above were synthesized or identified by algorithms. Which of these 8 images below do they remind you of?

(There are no reference images for this question.)

- ☐ A. Car
- ☐ B. Fork

- ☐ C. Oven
- ☐ D. Refrigerator
- ☐ E. Bowl
- ☐ F. Laptop
- ☐ G. Faucet
- ☐ H. Stapler

Question 10



All 90 visualizations above were synthesized or identified by algorithms. Which of these 8 images below do they remind you of?

(There are no reference images for this question.)

- ☐ A. Bush
- ☐ B. Bottle

- ☐ C. Lettuce
- ☐ D. Apple
- ☐ E. Goat
- ☐ F. Berries
- ☐ G. Clouds
- ☐ H. Shoes

Question 11



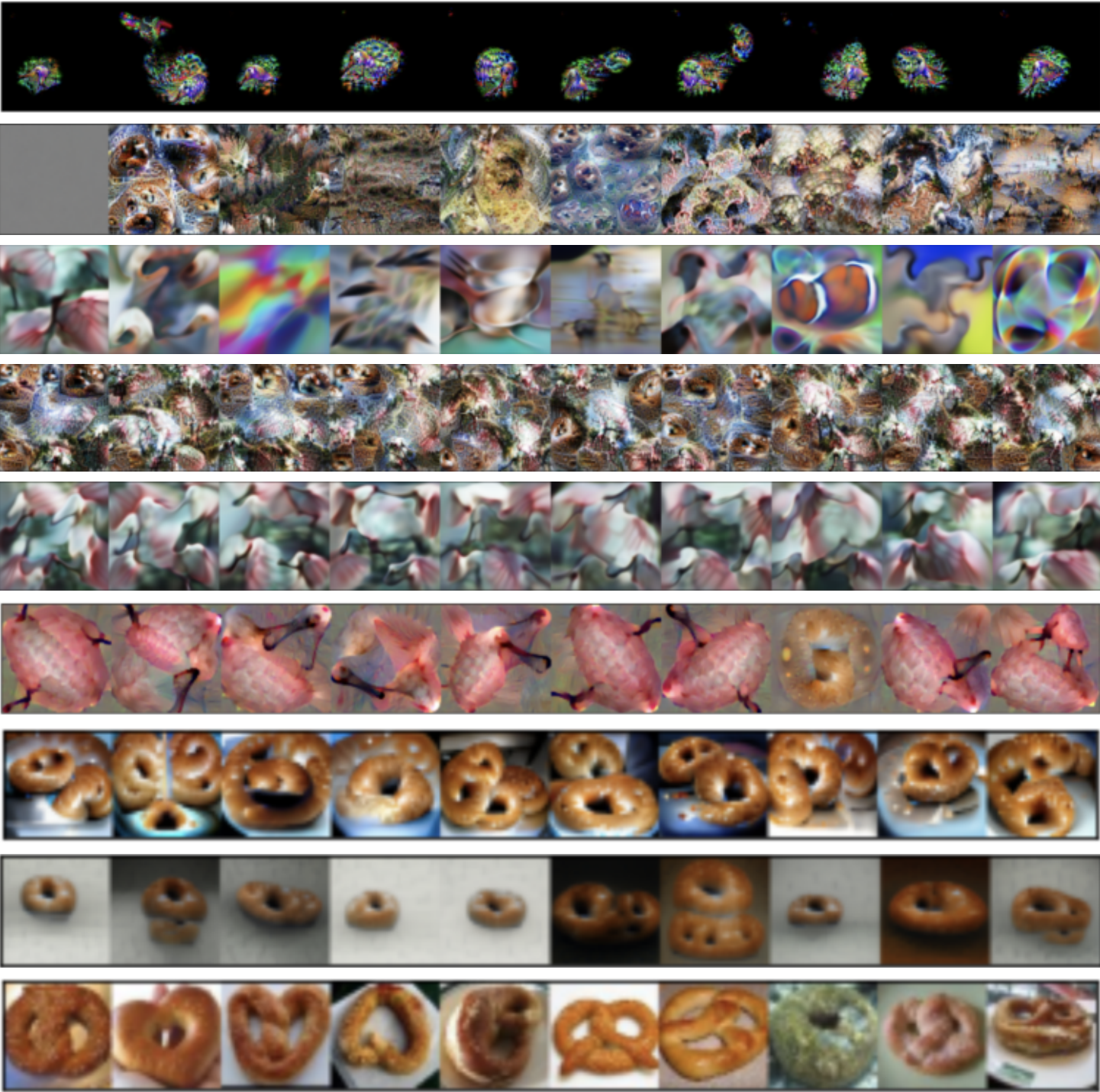
All 90 visualizations above were synthesized or identified by algorithms. Which of these 8 images below do they remind you of?

(There are no reference images for this question.)

- ☐ A. Salad
- ☐ B. Pizza

- ☐ C. Omelette
- ☐ D. Sandwich
- ☐ E. Spaghetti
- ☐ F. Stir Fry
- ☐ G. Nachos
- ☐ H. Waffle

Question 12



All 90 visualizations above were synthesized or identified by algorithms. Which of these 8 images below do they remind you of?

(There are no reference images for this question.)

- ☐ A. Muffin
- ☐ B. Cake

- ☐ C. Baguette
- ☐ D. Cupcake
- ☐ E. Danish
- ☐ F. Pie
- ☐ G. Donut
- ☐ H. Croissant



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