Generated Response

Research Topic: Cat animal behavior

Summary: Here’s a summary of the abstracts for the specified ArXiv articles on cat animal behavior:  
  
1. \*\*CATOS: Computer Aided Training/Observing System\*\*:  
 This study introduces an autonomous system, CATOS, designed for continuous observation and training of animals, specifically for documenting irregular behaviors and conducting long-term training without human interference. The pilot experiment involved training cats to respond to different sounds by pressing buttons for food rewards. Over six months, one cat achieved over 70% accuracy in learning the task.  
  
2. \*\*On cat-human interaction from the viewpoint of physics: an equation of motion\*\*:  
 This paper uses a physics-based equation to model cat movements around humans, portraying cats as point particles influenced by a human's presence. It captures behaviors such as not responding when called and lingering on a favored lap. The model also simulates the “zoomies” behavior of cats. The study discusses the educational value of this approach in teaching dynamics and stochastic processes.  
  
3. \*\*PET: An Eye-tracking Dataset for Animal-centric PASCAL Object Classes\*\*:  
 The PET database contains eye movement recordings from users observing various animals (birds, cats, cows, dogs, horses, and sheep) in free-viewing and visual search scenarios. It notes minor differences in gaze behavior across conditions but similar fixation patterns on target objects. The dataset supports applications in improving animal object classification through feature pooling.  
  
4. \*\*CatFLW: Cat Facial Landmarks in the Wild Dataset\*\*:  
 This paper presents CatFLW, a dataset of 2016 annotated images of cat faces featuring 48 facial landmarks related to their musculature and emotional states. The dataset is the largest collection of feline facial landmarks to date, aimed at advancing animal affective computing. A semi-supervised method for image annotation is described, significantly reducing the time required for dataset creation.  
  
5. \*\*3D Menagerie: Modeling the 3D shape and pose of animals\*\*:  
 This research focuses on developing realistic 3D models for animals using a small number of 3D scans of toy figurines. The method generates a part-based shape model to align different animals' shapes and poses, including cats, dogs, and other quadrupeds. The model facilitates animal shape generation and animation, demonstrating adaptability by fitting to real animal images not included in the training data.   
  
These abstracts highlight recent advancements in understanding and modeling cat behavior through various computational techniques and datasets.

# Articles

Jinook Oh (2014). CATOS: Computer Aided Training/Observing System. Retrieved from ArXiv.

Anxo Biasi (2024). On cat-human interaction from the viewpoint of physics: an equation of  
 motion. Retrieved from ArXiv.

Syed Omer Gilani, Ramanathan Subramanian, Yan Yan, David Melcher, Nicu Sebe, Stefan Winkler (2016). PET: An Eye-tracking Dataset for Animal-centric PASCAL Object Classes. Retrieved from ArXiv.

George Martvel, Nareed Farhat, Ilan Shimshoni, Anna Zamansky (2023). CatFLW: Cat Facial Landmarks in the Wild Dataset. Retrieved from ArXiv.

Silvia Zuffi, Angjoo Kanazawa, David Jacobs, Michael J. Black (2016). 3D Menagerie: Modeling the 3D shape and pose of animals. Retrieved from ArXiv.