Topic 1: Zero-shot image classification

- **Problem statement:** Given an image, the goal is to predict a single class label for the image. However, the challenge is to do this in a *zero-shot way* – training a model on image samples from a few classes, we should be able to recognize unseen classes as well via knowledge transfer from seen to unseen objects. The main focus will be to improve generalized ZSL accuracy.
- **Study material:**
  - **FREE (ICCV 2021) [code]**
  - **TransZero++ (IEEE TPAMI 2022) [code]**
  - **DUET (AAAI 2023) [code]**
  - **PSVMA (CVPR 2023) [code]**
  - **CoAR-ZSL (IEEE TNNLS 2023) [code]**
- **Datasets available:** AWA2, CUB-200, SUN
- **Preferred deep learning framework:** PyTorch