Counting Anything with Limited Annotated Data

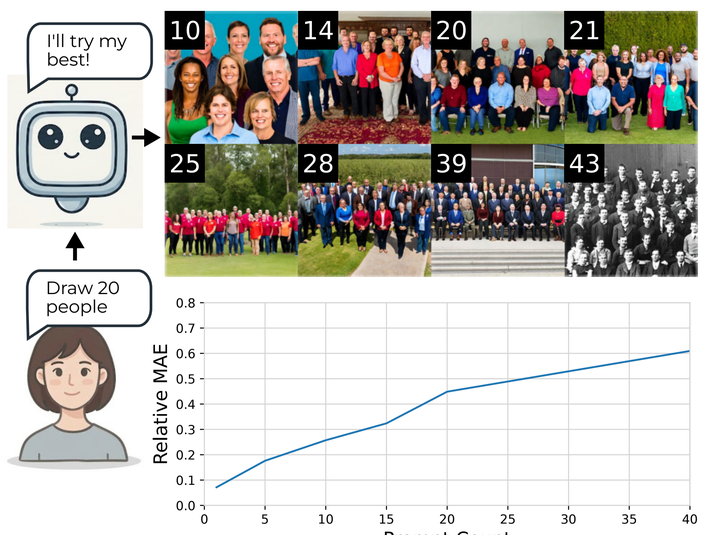
Adriano D'Alessandro, Ali Mahdavi-Amiri, Ghassan Hamarneh

MIAL Medical Image Analysis Lab · SFU AI · SFU

AFReeCA: Annotation-Free Counting for All

ECCV 2024

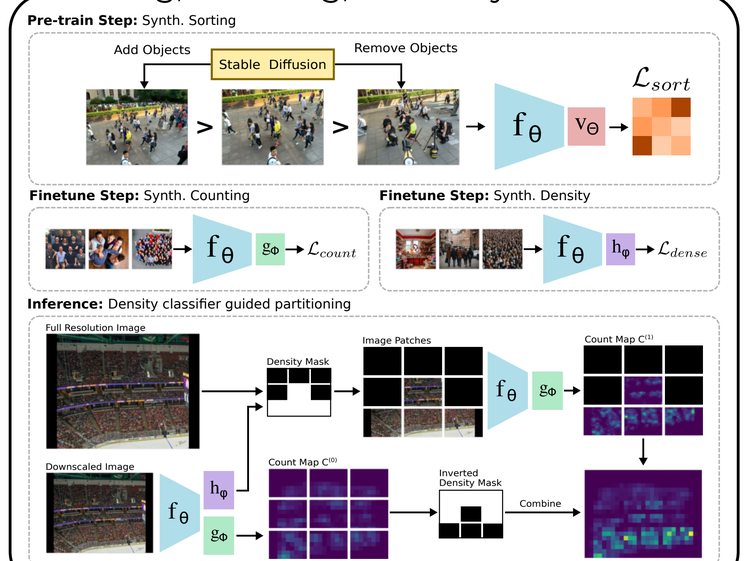
Stable Diffusion Can't Count!



How to Use Stable Diffusion for Counting



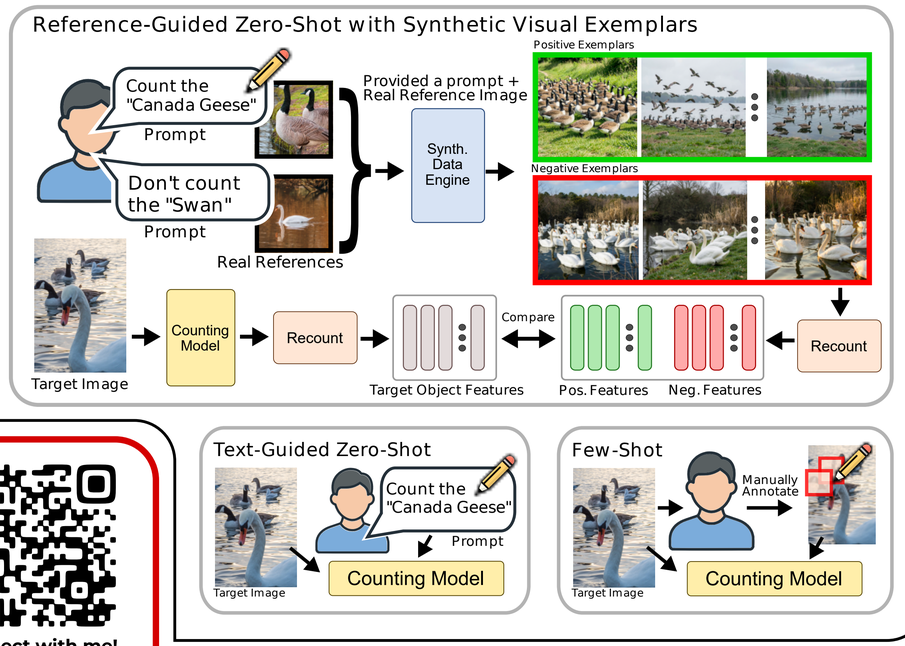
Sorting, Counting, & Density Estimation



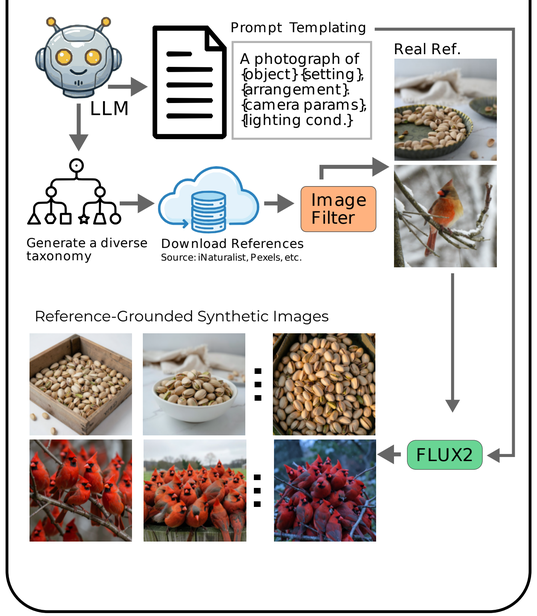
RECOUNT: Reference-Guided Counting with Synthetic Visual Exemplars

WACV 2027

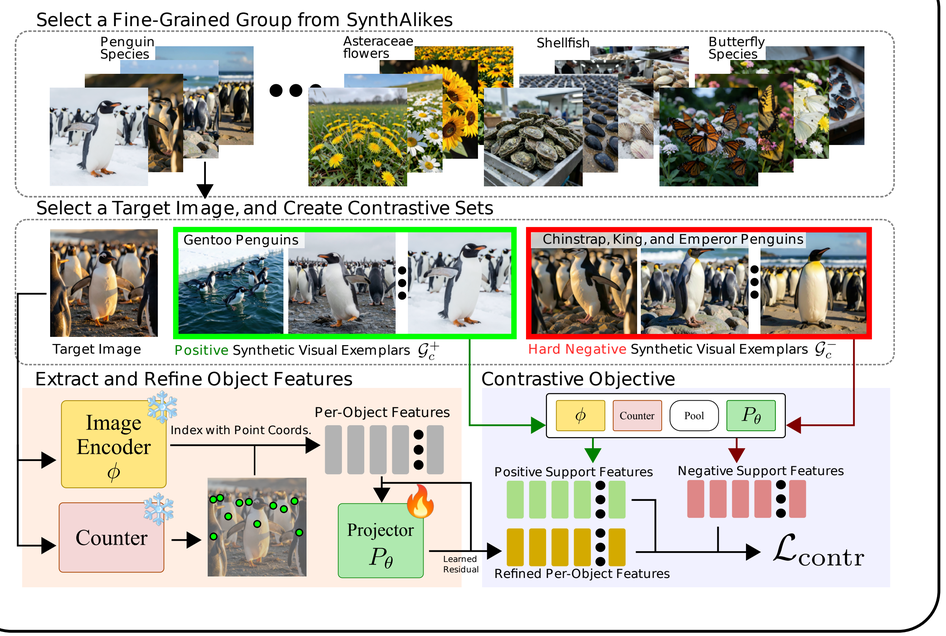
Expanding Visual Exemplars into Synthetic Galleries



Search for Real References



Use Synthetic Data to Tune a Projection Head

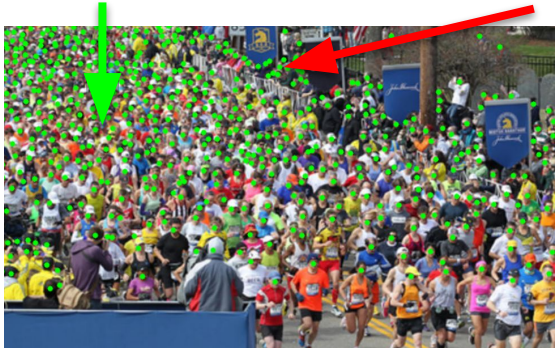


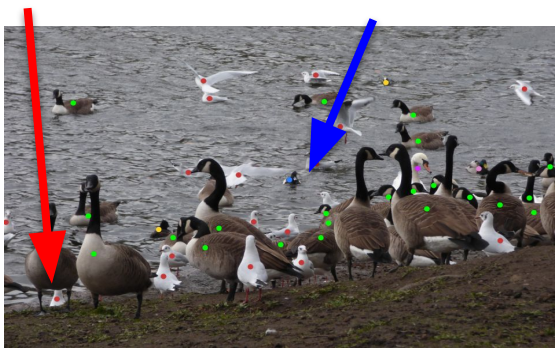
Connect with me!

Counting Anything with Limited Annotated Data

ECCV + WACV

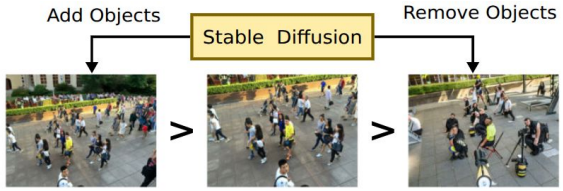
High Density, Lots of **Occlusion**, and even **Fine-grained** Categories. Annotating data is hard!!!







Can we use synthetic annotated data from diffusion models?? Yes. A few ways!



Sorting (Weak)



Global Counts (Noisy/Weak)



FG Identity Single Cat (Strong)
+ Pseudo-Labels (Noisy/Strong)