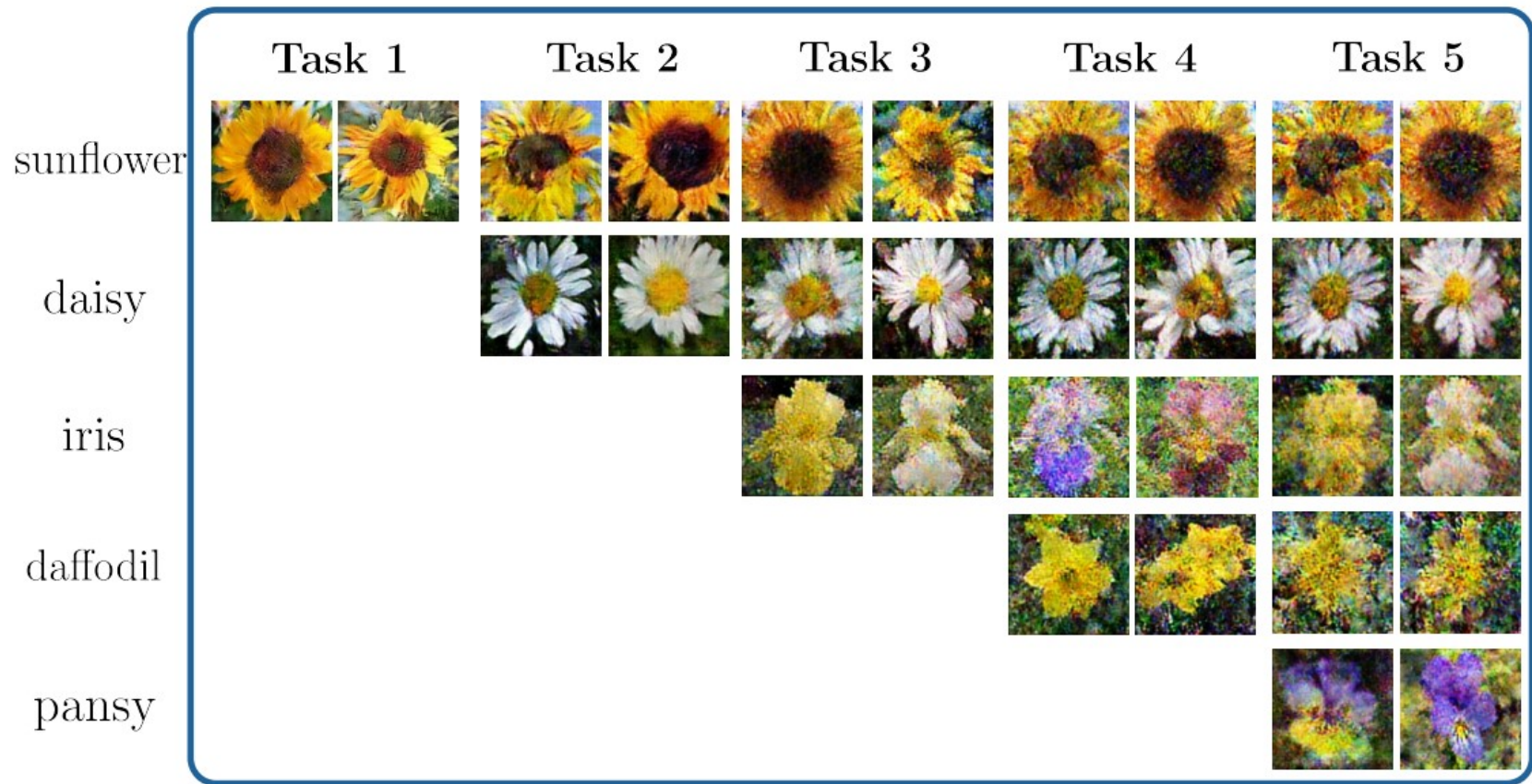


Catastrophic Forgetting in Generative Adversarial Networks.

- Project description:

This project aims to **improve the GAN framework** by enforcing task consistency over the learning process in the form of **curriculum learning or continual learning**. Not only would this boost convergence speed and quality of GANs but it would also result in a better understanding of the real data distribution due to consistency constrictions over past samples/observations.



Zhai, Mengyao, et al. "Lifelong gan: Continual learning for conditional image generation." Proceedings of the IEEE International Conference on Computer Vision. 2019.

Key challenges

- Manipulating datasets that can model data as a multi-task/curriculum problem.
- Devising architectures that are capable of being time and task consistent with respect to the optimisation process.
- Building training routines that either distil or bootstrap previous knowledge.
- Balancing the exploration vs. exploitation trade-off with respect to sample diversity vs sample fidelity
- Devising evaluation measures for how well the system is capable of preserving and reusing previous knowledge about that data.