

---

## PyTorch implementation of Deformable Convolution

**!!!Warning: There is some issues in this implementation and this repo is not maintained any more, please consider using for example: TORCHVISION.OPS.DEFORM\_CONV**

- By Wei OUYANG @ Institut Pasteur
- Thanks to Felix Lau's Keras/TensorFlow implementation: <https://github.com/felixlauon/deform-conv> (<https://github.com/kastnerkyle/deform-conv>)

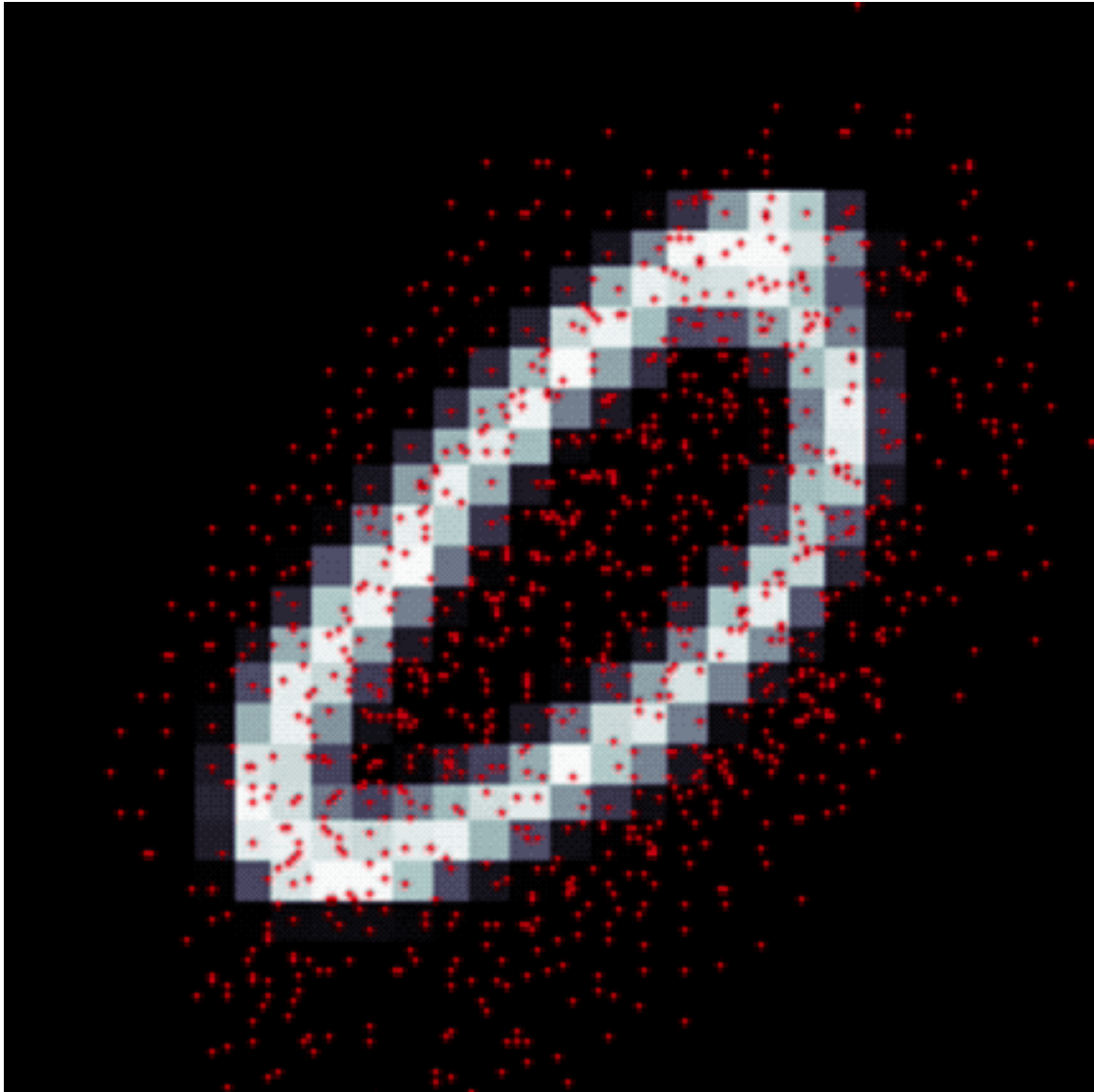
### TODO List

- ☒ implement offsets mapping in pytorch
- ☒ all tests passed
- ☒ deformable convolution module
- ☒ Fine-tuning the deformable convolution modules
- ☒ scaled mnist demo
- ☒ improve speed with cached grid array
- ☐ use MNIST dataset from pytorch (instead of Keras)
- ☐ support input image with different width and height
- ☐ benchmark with tensorflow implementation

### Deformable Convolutional Networks

Dai, Jifeng, Haozhi Qi, Yuwen Xiong, Yi Li, Guodong Zhang, Han Hu, and Yichen Wei. 2017. "Deformable Convolutional Networks." arXiv [cs.CV]. arXiv. <http://arxiv.org/abs/1703.06211>

The following animation is generated by Felix Lau (with his tensorflow implementation):



Also Check out Felix Lau's summary of the paper: <https://medium.com/@phelixlau/notes-on-deformable-convolutional-networks-baaabbc11cf3>