Setup

We provide the code as IPython notebooks. For ease of use, we recommend using Google Colab (colab.research.google.com) to run all of the notebooks except 3d_shape_occupancy.ipynb. The notebooks are designed to install libraries that the Colab environment is missing. To run in Colab, upload the file to colab.research.google.com and enable the GPU in the runtime settings.

Install the following libraries if you would prefer to use your own local environment:
- JAX (GPU)
- jaxlib
- neural-tangents
- tqdm
- Livelossplot
- imageio
- PIL
- cv2
- numpy
- matplotlib
- phantominator
- gdown

To run 3d_shape_occupancy.ipynb the additional libraries are necessary:
- Embree
- pyembree
- trimesh

Included Files

1d_regression.ipynb: Main text Fig. 2,3 and supp. Fig. 8
1d_scatter_plots.ipynb : Main text Fig. 4 and supp. Fig. 9
1d_ntk_opt.ipynb : Supp. Fig. 1
2d_image_regression.ipynb: Main text Fig. 1, Table 1 and supp. Fig. 2,6,11 Table 2
2d_CT.ipynb: Main text Table 1 and supp. Fig. 13 Table 4
2d_MRI.ipynb: Main text Fig. 1, Table 1 and supp. Fig. 14 Table 5
3d_shape_occupancy.ipynb: Main text Fig. 1, Table 1, and supp. Fig. 12 Table 3
3d_simple_nerf: Main text Fig. 1, Table 1 and supp. Fig. 15 Table 6
Kernel_spreading.ipynb : Supp. Fig. 3
toy_stationary_ex.ipynb : Supp. Fig. 10
axis_aligned_ex.ipynb: Supp. Fig. 7