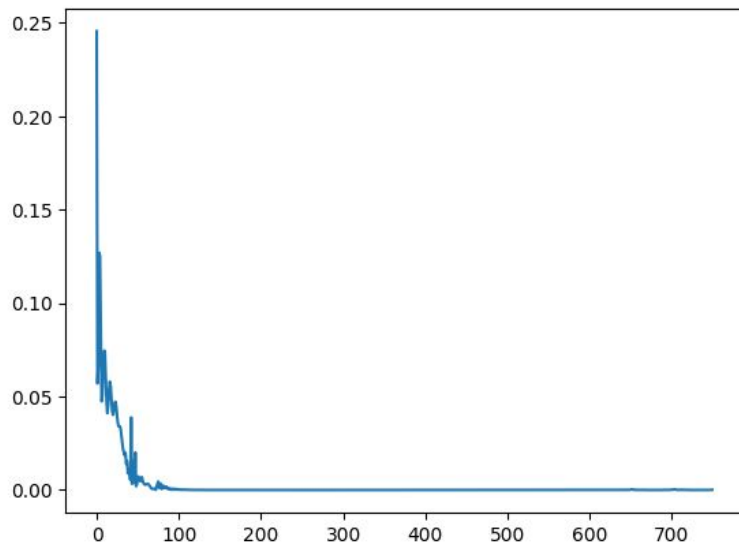# ML4Science

Week 2
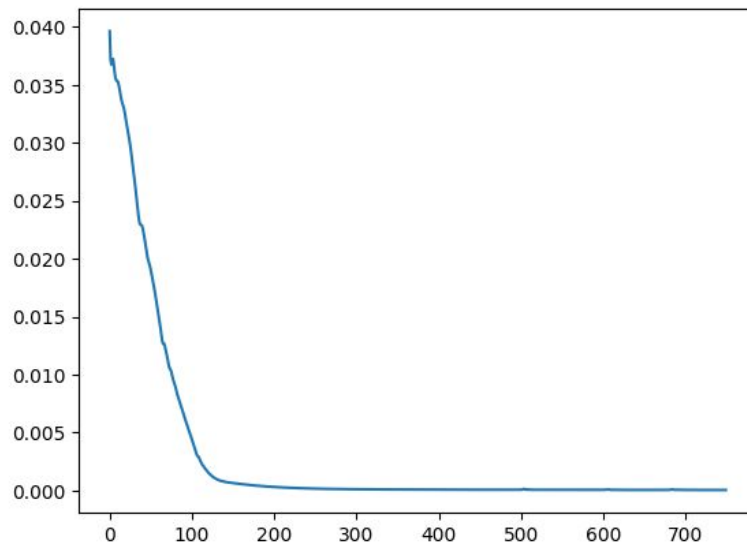
What we did

- Train the network for practical exercise
- Implement Run class for convenient training with physics loss

basic NN
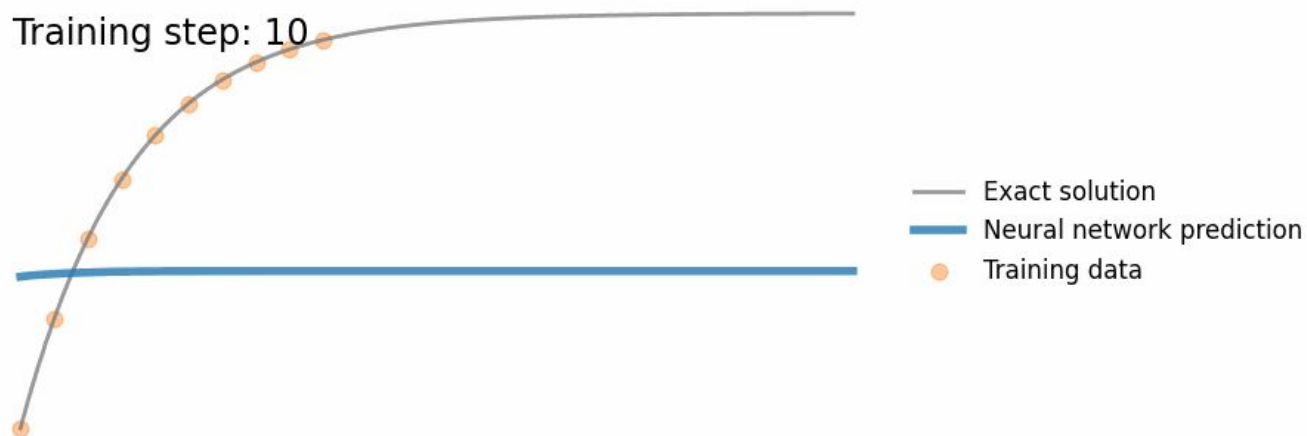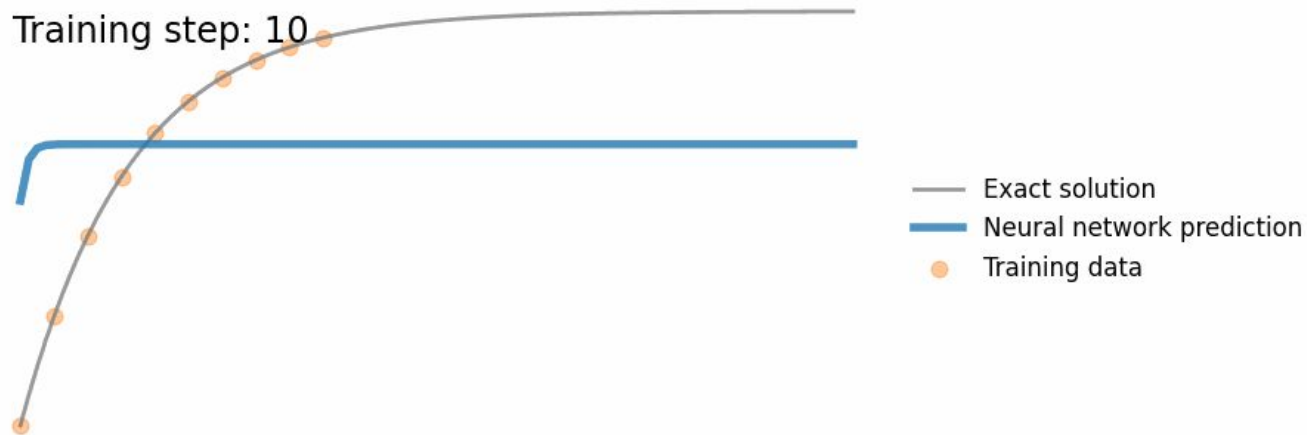

PINN

basic NN

Training step: 10

— Exact solution
— Neural network prediction
● Training data

PINN

Training step: 10

— Exact solution
— Neural network prediction
● Training data

What we want to do

- Add TensorBoard metrics tracking
- Implement DataHandler
- Add restrictions to the network architecture (e.g. for convexity)
- Explore the optimal ratio between data loss and physics loss

Questions

- How many datapoint do we need to compute data loss and physics loss?
- How to choose these data points?
- What if we add SGD option of physics loss?
- Can we train the model with physics loss only to convergence?
- How do we evaluate our model?