1. What the authors tried to develop based upon MLP?

Here the author tries to develop a new numerical method to find the extreama of function based on MLP. This method will to applicable for any situation weather the object is curve or surface until they can fitted by second order differentiation. To clarify he also portrait the situation in different three situations.

1. In the 3 demo's why one network cannot fit angular lines in refraction of light demo? What's author’s observation and what's your observation?

According to Fermat’s principle the path taken by a ray between two given points is the path that can be traversed in the least time, and it was proposed as a means of explaining the ordinary law of refraction of light.

According to the author, the light always chooses the path that takes shortest time to travel. Along with that it also guide to other fields. The Lagrangian in propagation that light passes through two media and the numerical emulations performed by MLP showed that in only one network it cannot fit angular line well.

Light reflection cannot fit angular lines in reflection of light demo as , Light uses the shortest path to reach any destination so, its changes its way to when it passes through any medium .Light enters the medium the ray is bent towards the normal. When it leaves the medium, it is bent away from the normal, and regains the same angle as before it entered the medium. That’s the reason it cannot fit in only one network.

1. Authors approach requires no experimental data, only equations of actions and boundary conditions. Is it true in this experiment?

A multilayer perceptron is a class of feed forward artificial neural network. It based on present understanding of system and its ability to learn through examples. It can learn , adapt ,predict and classify as its prediction capability is very high .It provide more accurate results than the conventional statistic. Here author tries to develop a new numerical to find extrema of functions. Author also demonstrate his solution in three different situation in gravity filed, refraction of light and minimal surface.

Here in Movement in the gravity field the object will finds its final place from original place in a certain amount of time with its boundary condition. Along with it, in refraction of time the light will be reach to its destination in the least amount of time, but the light passes through two media which why in only one network cannot fit angular lines well as the network has to be second order differentiable. Also to find Minimal surface of a boundary with specified constraints because the boundary is continuous the boundary will be modeled by MLP.

As ANNs are widely used to approximate complex systems that are difficult to model using conventional modeling techniques, such as mathematical modeling. There is no a certain method for selection of proper ANNs structure and training algorithm. The best solution is obtained by trial and error. On the other hand, the neural networks have a high prediction capability. Therefore ,Authors approach requires no experimental data, only equations of actions and boundary conditions.

1. Do you agree too that a small batch size will cause a decrease in precision?

Batch size is one of the most important element in modern deep learning systems. People often want to use a larger batch size to train their model as it allows computational speedups. However, too large of a batch size will lead to poor generalization. For the functions that we are trying to optimize, there is a difference between the benefits of smaller and bigger batch sizes. On the other hand, using smaller batch sizes have been empirically shown to have faster convergence to good solutions as using smaller size batch will allow model to use all aspects and possible ways. So, using smaller size of data will not cause a decrease in precision on the other hand it will increase the level of perfection.