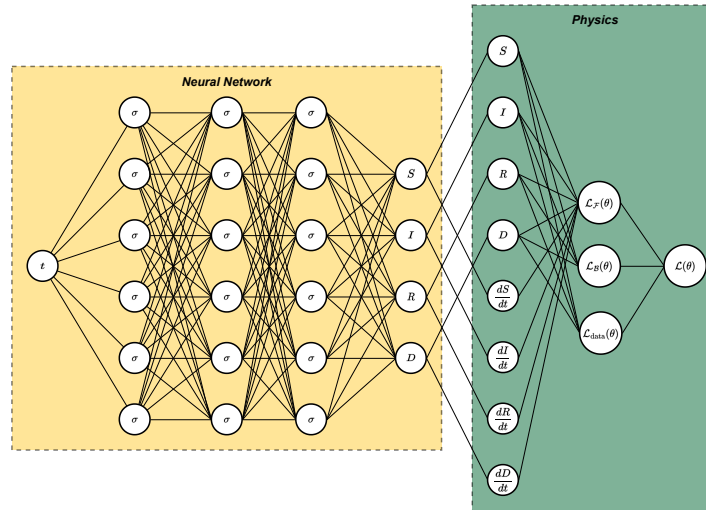


Student Research Talks (StReeTs)

George Mason University

Application of Physics Informed Neural Networks for Predicting Disease Dynamics

Alonso Ogueda
George Mason University



Abstract

In this work, we present modeling and simulation of disease dynamics through Physics Informed Neural Networks (PINNs) and its application to real data modeled using non-linear system of differential equations. Specifically, we apply PINNs to predict the behavior of diseases described by modified compartmental models that include parameters and variables associated with the governing system describing the dynamics of the disease. Through benchmark problems, we will show that our model validates real-data and demonstrate how PINNs can predict optimal parameters for a given dataset functions.

Date: Friday, February 16th

Time: 2:30pm–3:20pm

Place: Exploratory Hall 4106

Pizza will be served at the presentation.

For further information or for special accommodations (including dietary restrictions), please contact Michael Merkle or Gabe Lumpkin via email at mmerkle@gmu.edu or glumpkin@gmu.edu by Thursday.