Physics Informed Machine Learning

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1. Physics Informed Machine Learning High Level Overview of AI and ML in Science and Engineering

2. AI/ML + Physics 1: Choosing what to model

3. AI/ML + Physics 2: Curating Training Data

4. AI/ML + Physics 3: Designing an Architecture

5. AI/ML + Physics 4: Crafting a Loss Function

6. AI/ML + Physics 5: Employing an Optimization Algorithm

7. AI/ML + Physics: Recap and Summary

8. AI/ML + Physics: Preview of Upcoming Modules and Bootcamps

9. Deep Learning to Discover Coordinates for Dynamics: Autoencoders & Physics Informed Machine Learning

10. Sparse Identification of Nonlinear Dynamics (SINDy): Sparse Machine Learning Models 5 Years Later!

11. Sparse Nonlinear Dynamics Models with SINDy 2: Training Data & Disambiguating Models

12. Sparse Nonlinear Dynamics Models with SINDy 3: Effective Coordinates for Parsimonious Models

13. Sparse Nonlinear Dynamics Models with SINDy 4: The Library of Candidate Nonlinearities

14. Sparse Nonlinear Dynamics Models with SINDy 5: The Optimization Algorithms

15. Discrepancy Modeling with Physics Informed Machine Learning

16. Hamiltonian Neural Networks (HNN)

17. Lagrangian Neural Network (LNN)

18. Neural Implicit Flow (NIF)

19. Neural ODEs (NODEs)   NODEA

20. Python Symbolic Regression (PySR)

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