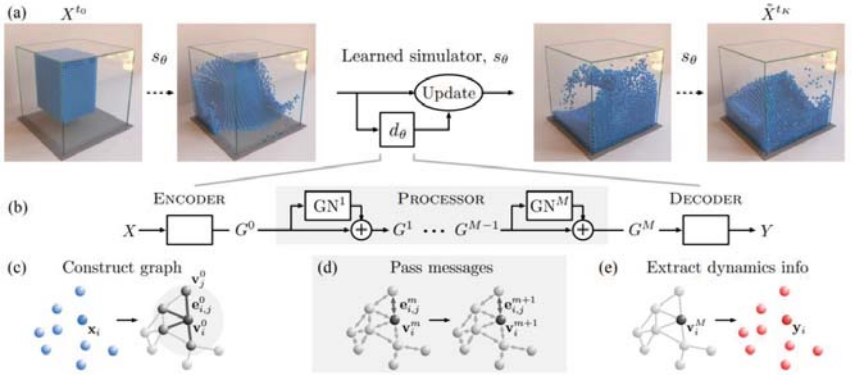
Deep learning in SHM and beyond

Topic: Deep learning in structural engineering

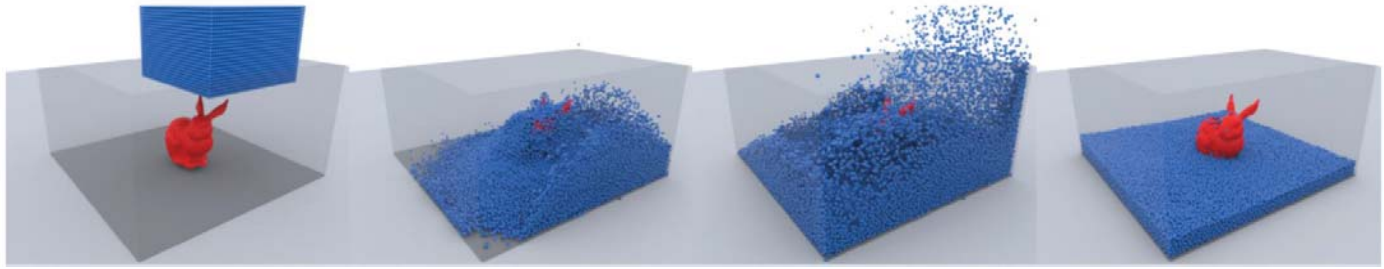
TITLE: Graph neural networks



RESEARCH BACKGROUND:
Simulating complex phenomena such as structural and fluid dynamics requires expensive simulations. State-of-the-art machine learning methods may be used to create faster, yet accurate, simulation methods.

RESEARCH ACTIVITIES:
1. Introduction to ***graph neural networks*** (GNNs)
2. Application of GNNs to simple case studies
3. Development of GNNs for damage diagnosis of plate-like structures using ***ultrasonic guided waves***

METHODOLOGY: Analytical – Numerical



DURATION: 7-9 months

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