

# ABSTRACT

Graph scattering transforms construct deep convolutional representations of data without learned parameters. More importantly, they are proven to satisfy invariance and stability properties. This thesis examines the graph scattering transform as a component within larger machine learning models and presents an open source software library for graph scattering algorithms. We include an analysis of graph scattering transforms variants in practical machine learning settings. The constraints and benefits of using such models are discussed in detail. An open source software package is presented in order to better facilitate research into graph scattering methods and their applications. This allows for community collaboration, standardization and integration with other supported libraries to improve the quality of research in the field.