Research Plan:

Title: Graph Signal Processing for Health Applications

Introduction:
Graph signal processing (GSP) is a powerful tool for analyzing data on networks or graphs. In this research project, we aim to apply GSP to health applications, such as analyzing brain connectivity networks in neurodegenerative diseases. The goal is to develop novel methods for analyzing graph signals that can provide insights into the underlying mechanisms of diseases and improve diagnosis and treatment.

Objectives:
1. Develop novel methods for analyzing graph signals in health applications.
2. Apply GSP to brain connectivity networks in neurodegenerative diseases.
3. Evaluate the performance of the proposed methods using real-world data.

Methodology:
1. Develop a framework for analyzing graph signals in health applications.
2. Apply the framework to brain connectivity networks in neurodegenerative diseases.
3. Develop novel algorithms for analyzing graph signals, such as graph convolutional neural networks.
4. Evaluate the performance of the proposed methods using real-world data.

Expected Outcomes:
1. Novel methods for analyzing graph signals in health applications.
2. Insights into the underlying mechanisms of neurodegenerative diseases.
3. Improved diagnosis and treatment of neurodegenerative diseases.