Introduction

Neural process and its limitations

- Another research line of few-shot learning is neural processes, which conduct inference inference using a small set of data instances as conditioning.
- Even through neural processes show better generalizability,
  - they are based on a fixed set of parameters and usually suffer from the limitations like under-fitting,
  - thereby leading to unsatisfactory performance.

Introduction

Analysis of two research lines of models

- Two research lines of models are complementary to each other.
- The parameter adaptation mechanism in meta-learning can provide more flexibility to alleviate unfitting issues of the neural process.
- The neural processes can help handle the heterogeneity challenge for MAML by using a small set of data instances as conditioning instead of encoding all the information into parameter set.
- Although it's promising to integrate two popular few-shot approaches together, the incompatible operations on the given small set of data instances is main obstacle.