Introduction

Task Challenges

- Despite the success of deep learning models with large amounts of labeled datasets, the algorithms still suffer in the cases where fake news detection is needed on emergent events.
- Adding the knowledge from newly emergent events requires to build a new model from scratch or continue to fine-tune the model on newly collected labeled data.
  - Be challenging, expensive, and unrealistic for real-world settings.
- How to leverage a small set of verified posts to make the model learn quickly to detect fake news on the newly-arrived events is a crucial challenge.

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Limitations of Current Techniques

- To overcome the challenge as just mentioned, the few-shot learning, which aims to leverage a small set of data instances for quick learning, is a possible solution.
- Basic idea of meta-learning is to leverage the global knowledge from previous tasks to facilitate the learning on new task.
- Existing methods is highly associated with an important assumption:
  - The tasks are from a similar distribution and the shared global knowledge applies to different tasks.