

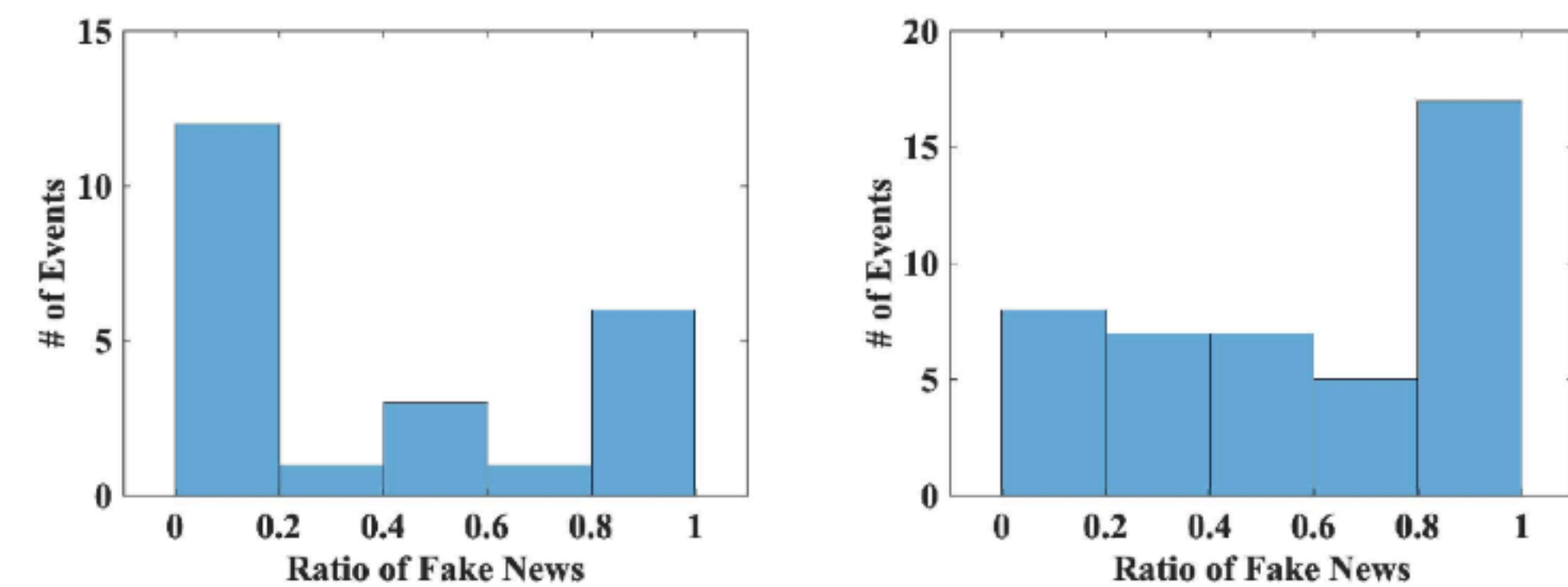
Introduction

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.

Introduction

Assumption of Meta-Learning Methods



The number of events with respect to different percentages of fake news.

- The assumption **usually doesn't hold in the fake news detection** problem as
 - the writing style, content, vocabularies, and even class distributions of news on different events usually tends to **differ**.
- Observed from the figure that the ratios of fake news on events are **significantly different**.
- The significant difference across events posts serious challenges on **event heterogeneity**, which cannot be simply handled by globally sharing knowledge.