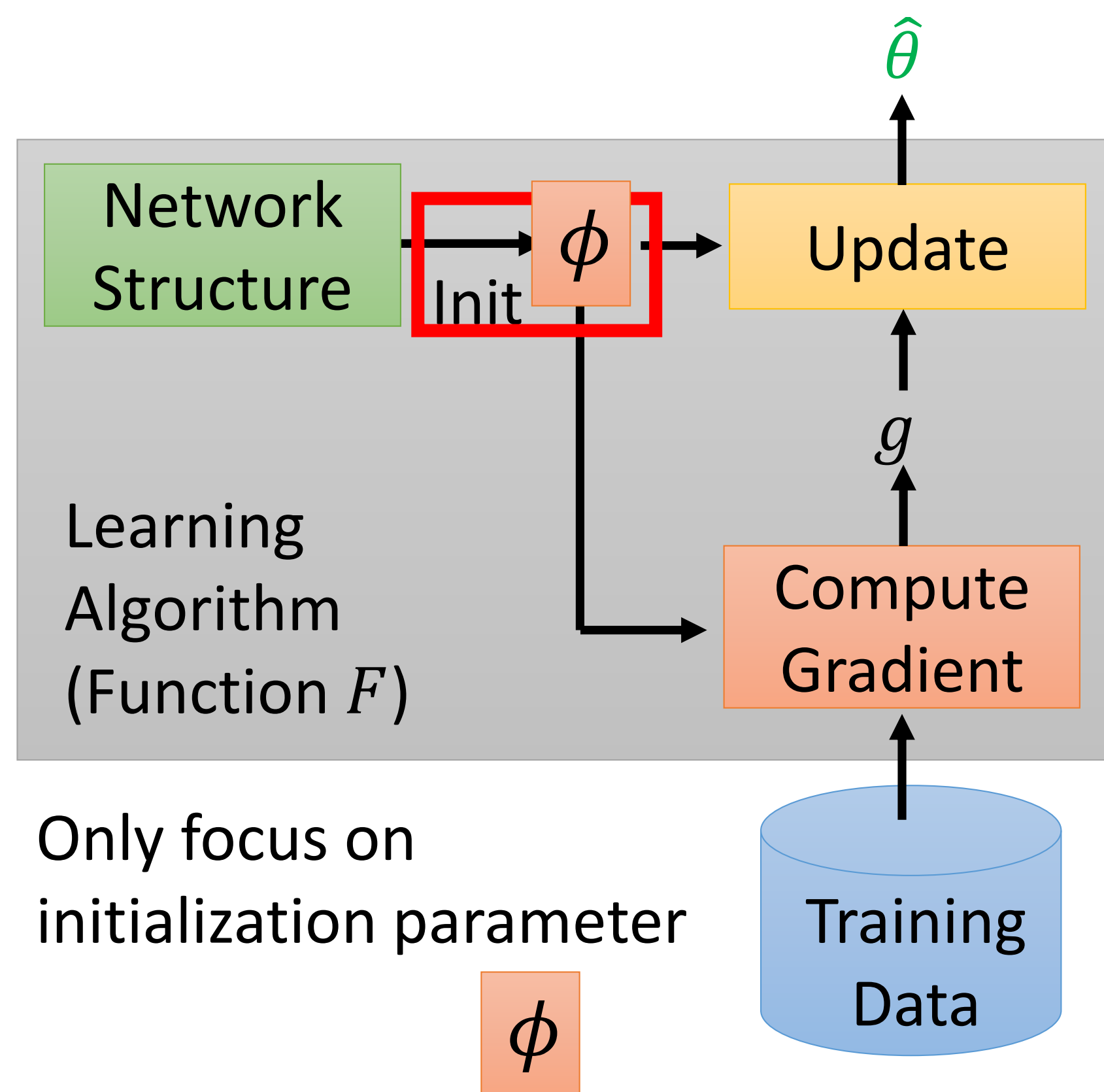


Preliminary Work

MAML

MAML

- Fast ... Fast ... Fast ...
- Good to truly train a model with one step. ☺
- When using the algorithm, still update many times.
- Few-shot learning has limited data.



$$L(\phi) = \sum_{n=1}^N l^n(\hat{\theta}^n)$$

$$\phi \leftarrow \phi - \eta \nabla_{\phi} L(\phi)$$

Considering one-step training:

$$\hat{\theta} = \phi - \varepsilon \nabla_{\phi} l(\phi)$$



Preliminary Work

Limitations of MAML

- MAML can capture task uncertainty via one or several gradient updates.
- However, in fake news detection problem, when **events are heterogeneous**, the event uncertainty is **difficult to encode into parameters** via one or several gradient steps.
- Moreover, even support and query data from same event, there's no **guarantee that they are all highly related** to each other.
- In such a case, the parameter adaptation on fake news detection loss on support set may be **misleading for some posts**.