

message

$$\mathbf{h}_i^{(\ell+1)} = g_V(\mathbf{m}_i^{(\ell)}, \mathbf{h}_i^{(\ell)}, \mathbf{z}^{(\ell)})$$

$$\mathbf{m}_i^{(\ell)} = f_{E \rightarrow V}(\{\mathbf{e}_{ij}^{(\ell)}, \forall j \in \mathcal{N}(i)\})$$

aggregation of neighbours