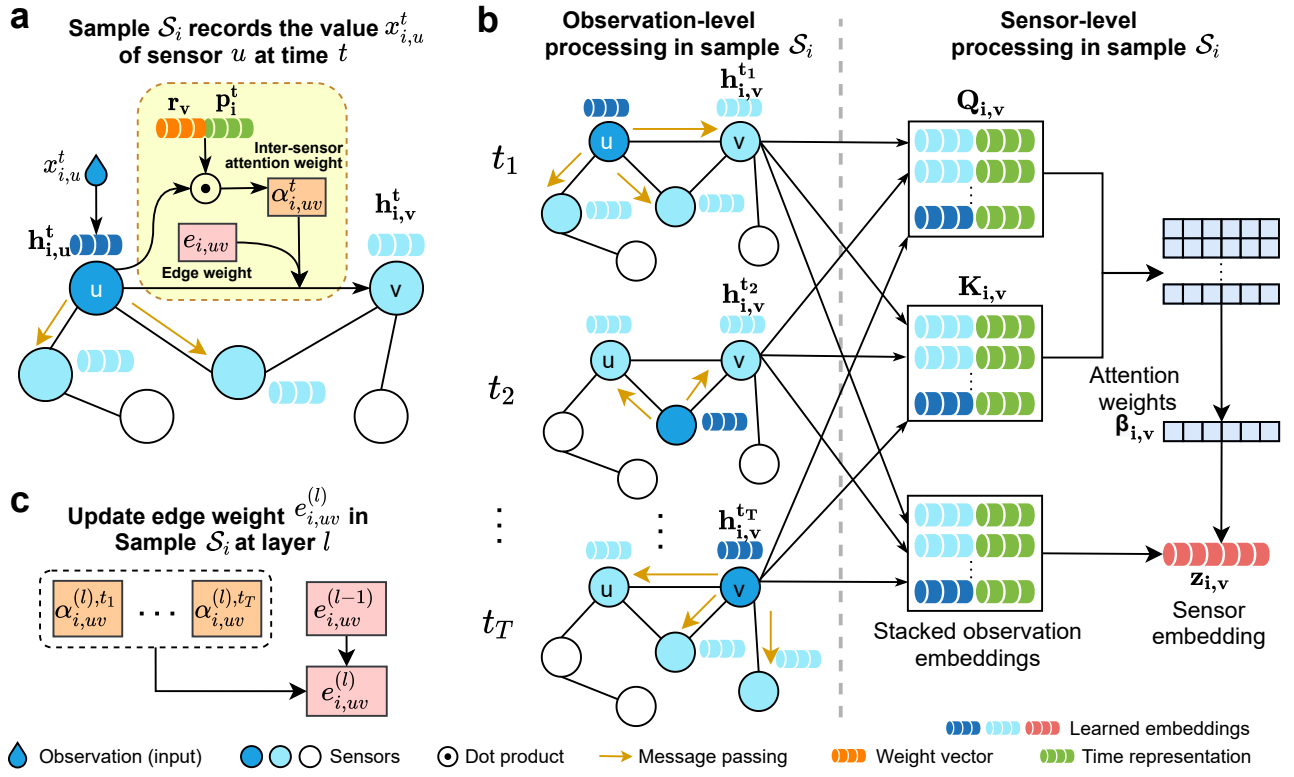
a
Sample $\mathcal{S}_i$ records the value $x^t_{i,u}$ of sensor u at time t
$\mathbf{r_v}$
$\mathbf{p_i^t}$
Inter-sensor attention weight
$\alpha^t_{i,uv}$
$e_{i,uv}$
Edge weight
$x^t_{i,u}$
$\mathbf{h^t_{i,u}}$
$\mathbf{h^t_{i,v}}$
u
v
b
Observation-level processing in sample $\mathcal{S}_i$
Sensor-level processing in sample $\mathcal{S}_i$
t_1
t_2
t_T
$\mathbf{h^{t_1}_{i,v}}$
$\mathbf{h^{t_2}_{i,v}}$
$\mathbf{h^{t_T}_{i,v}}$
$\mathbf{Q_{i,v}}$
$\mathbf{K_{i,v}}$
Attention weights
$\boldsymbol{\beta}_{\mathbf{i,v}}$
$\mathbf{z_{i,v}}$
Sensor embedding
Stacked observation embeddings
c
Update edge weight $e^{(l)}_{i,uv}$ in Sample $\mathcal{S}_i$ at layer l
$\alpha^{(l),t_1}_{i,uv}$
$\alpha^{(l),t_T}_{i,uv}$
$e^{(l-1)}_{i,uv}$
$e^{(l)}_{i,uv}$
Observation (input)
Sensors
Dot product
Message passing
Learned embeddings
Weight vector
Time representation