$\mathbf{w}_t$

$\mathbf{y}^T$

$\mathbf{X}^T$

$\tilde{\mathbf{g}}_1(\mathbf{w}_t)$ $\tilde{\mathbf{g}}_2(\mathbf{w}_t)$ $\tilde{\mathbf{g}}_{m-1}(\mathbf{w}_t)$ $\tilde{\mathbf{g}}_m(\mathbf{w}_t)$

Worker 1   Worker 2   Worker m-1   Worker m

aggregate

$$\mathbf{g}(\mathbf{w}_t) = \frac{1}{n}\sum_{k=1}^{m}\tilde{\mathbf{g}}_k(\mathbf{w}_t) + \lambda\,\mathbf{w}_t$$

$$\mathbf{v}_{t+1} = \beta\mathbf{v}_t + \mathbf{g}(\mathbf{w}_t)$$

$$\mathbf{w}_{t+1} = \mathbf{w}_t - \alpha\mathbf{v}_t$$