Exercise: EM for robust linear regression with a Student likelihood

Consider a model of the form

$$p(y_i|\mathbf{x}_i, \mathbf{w}, \sigma^2, \nu) = \mathcal{T}(y_i|\mathbf{w}^T\mathbf{x}_i, \sigma^2, \nu) \tag{1}$$

Derive an EM algorithm to compute the MLE for $\mathbf{w}$. You may assume ν and σ^2 are fixed, for simplicity.