

$$s_k^{(ij)} := \frac{f_k(x_k^{(j)}) - f_k(x_k^{(i)})}{||x_k^{(j)} - x_k^{(i)}||}, v_k^{(ij)} := \frac{x_k^{(j)} - x_k^{(i)}}{||x_k^{(j)} - x_k^{(i)}||}, a_k^{(ij)} := \frac{L_f}{2} ||x_k^{(j)} - x_k^{(i)}||.$$