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$$E(a)=\sum_{k=0}^{N}\left(f(x_k)-ax(2021x-2020)+1977\right)^2$$

$$E'(a)=2\sum_{k=0}^{N}\left(f(x_k)-ax_k(2021x_k-2020)+1977\right)\cdot\left(-x_k(2021x_k-2020)\right)$$

$$=2\sum_{k=0}^{N}\left(f(x_k)+1977\right)\left(-x_k(2021x_k-2020)\right)-ax_k(2021x_k-2020)\left(-x_k(2021x_k-2020)\right.$$

$$=2\sum_{k=0}^{N}\left(f(x_k)+1977\right)\left(-x_k(2021x_k-2020)\right)+ax_k^2(2021x_k-2020)^2$$

$$=2\sum_{k=0}^{N}\left(f(x_k)+1977\right)\left(-x_k(2021x_k-2020)\right)+a\cdot 2\sum_{k=0}^{N}x_k^2(2021x_k-2020)^2$$

$$E'(a)=0 \Rightarrow a=\frac{-2\sum_{k=0}^{N}\left(f(x_k)+1977\right)\left(-x_k(2021x_k-2020)\right)}{2\sum_{k=0}^{N}x_k^2(2021x_k-2020)^2}$$