We begin by writing out the Hamiltonian:

$$\hat{H} = \sum_{i=1}^{N} \left(-\frac{\hbar^2}{2m} \frac{\partial^2}{\partial x_i^2} + \frac{m\omega^2 x_i^2}{2} \right) + \sum_{i<j} \left[g\delta(x_i - x_j) + \omega g |x_i - x_j| \right]$$

We assume our wavefunction is of the form

$$\psi = e^{-f(\vec{x})}$$

for some neural network function f. Computing the average energy:

$$\langle \psi | \hat{H} | \psi \rangle = \int d\vec{x}\, e^{-f(\vec{x})} \left[\sum_{i=1}^{N} -\frac{\hbar^2}{2m} \frac{\partial^2}{\partial x_i^2} e^{-f(\vec{x})} + \frac{m\omega^2 x_i^2}{2} e^{-f(\vec{x})} + \sum_{i<j} (g\delta(x_i - x_j) + \omega g |x_i - x_j|) e^{-f(\vec{x})} \right]$$