Our Goal

Describe second-quantized systems by classical dynamics, while keeping most of the physics!

Second-Quantized Hamiltonian

Classical Hamiltonian
(that preserves quantum behavior)

Second Quantization Review

Bosons: Canonical Commutation Rules

$$\left[\hat{b}_i^\dagger, \hat{b}_j\right] = \delta_{ij} \qquad \left[\hat{b}_i, \hat{b}_j\right] = 0$$

“Ladder” Operators for Harmonic Oscillator