

$$u(x) = u_0 \left[\left(\frac{a}{x} \right)^{12} - 2 \left(\frac{a}{x} \right)^6 \right]$$

$$u_0 > 0$$

$$a > 0$$

① Find eqⁿ position

$$F = 0;$$

$$-12 a^{12} x^{-13} = -12 a^6 x^{-7}$$

$$a^6 = x^6$$

$$a = x$$

$$x=0$$

$$a=0$$

② Find if stable / unstable

$$F = \frac{du}{dx} = u_0 \left[a^{12} \cdot (-12) x^{-13} - 2 \cdot a^6 \cdot (-6) x^{-7} \right]$$

$$\frac{d^2u}{dx^2} = u_0 \left[3 \cdot a^{12} x^{-14} - 12 \cdot a^6 x^{-8} \right]$$

