Let us employ the stochastic simulation to search for the maximal \( \bar{f} \) such that

\[
\Pr \{ \xi_1 + \xi_2^2 + \xi_3^3 \geq \bar{f} \} \geq 0.8
\]

where \( \xi_1 \) is an exponentially distributed variable \( \mathcal{E}(1) \), \( \xi_2 \) a normally distributed variable \( \mathcal{N}(2, 1) \), and \( \xi_3 \) a uniformly distributed variable \( \mathcal{U}(0, 3) \). A run of stochastic simulation with 3000 cycles shows that \( \bar{f} = 4.93 \).