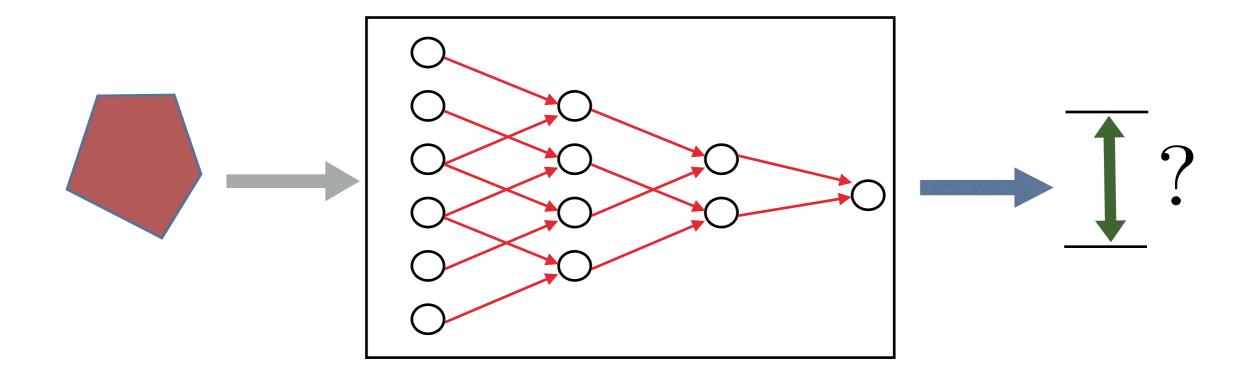
## VERIFICATION OF DEEP NEURAL NETWORKS

SOURADEEP DUTTA\*, SUSMIT JHA<sup>#</sup>, SRIRAM SANKARANARAYANAN\*, ASHISH TIWARI <sup>#</sup>

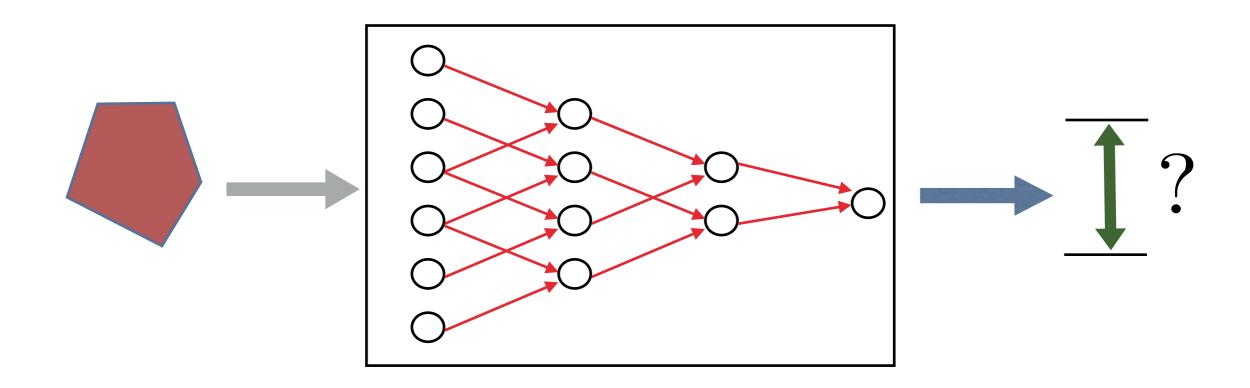
\* UNIVERSITY OF COLORADO, BOULDER

# SRI INTERNATIONAL, MENLO PARK

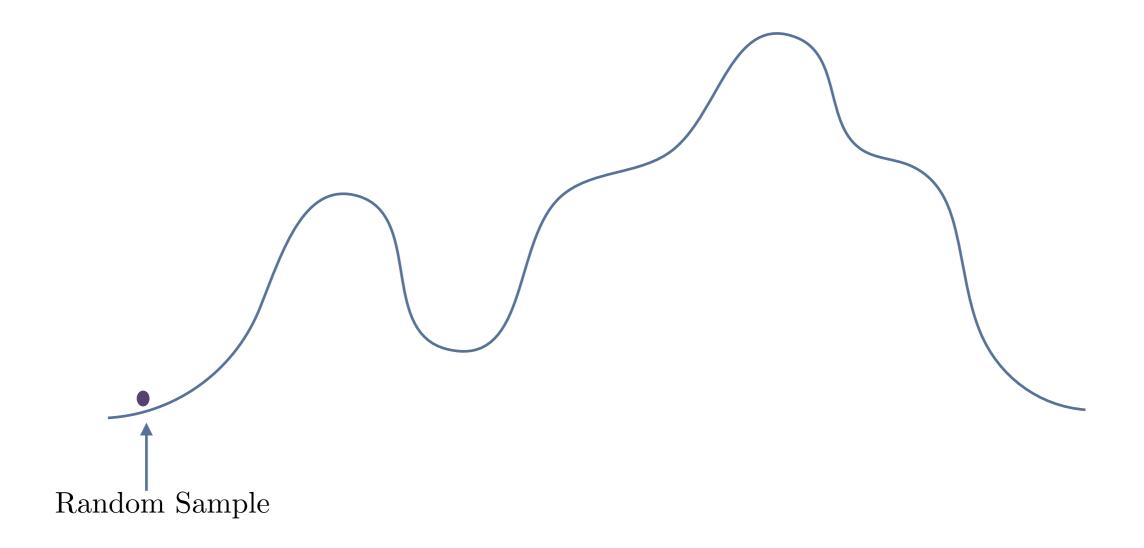
A much simpler problem....

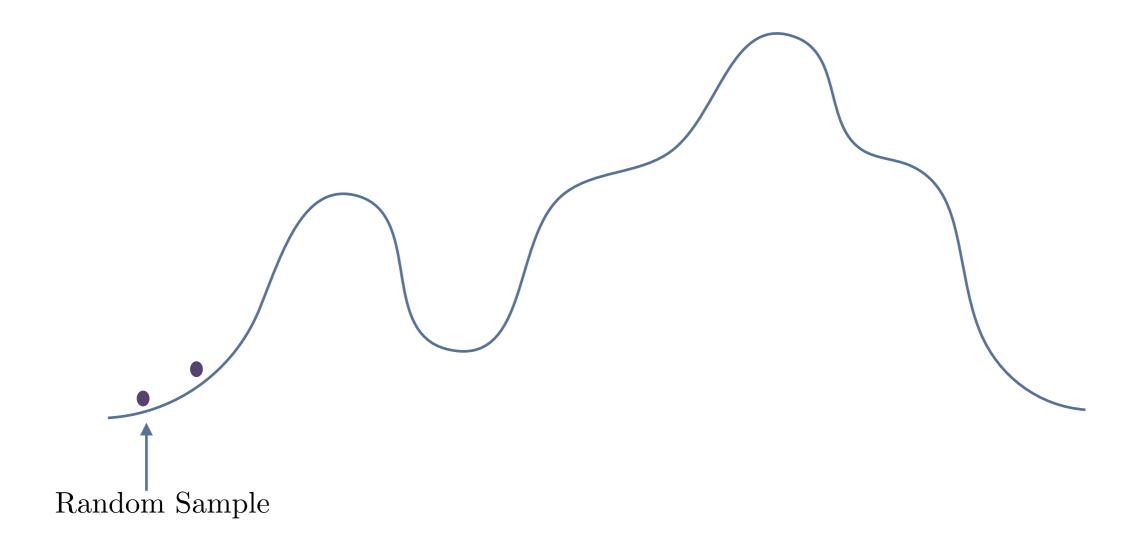


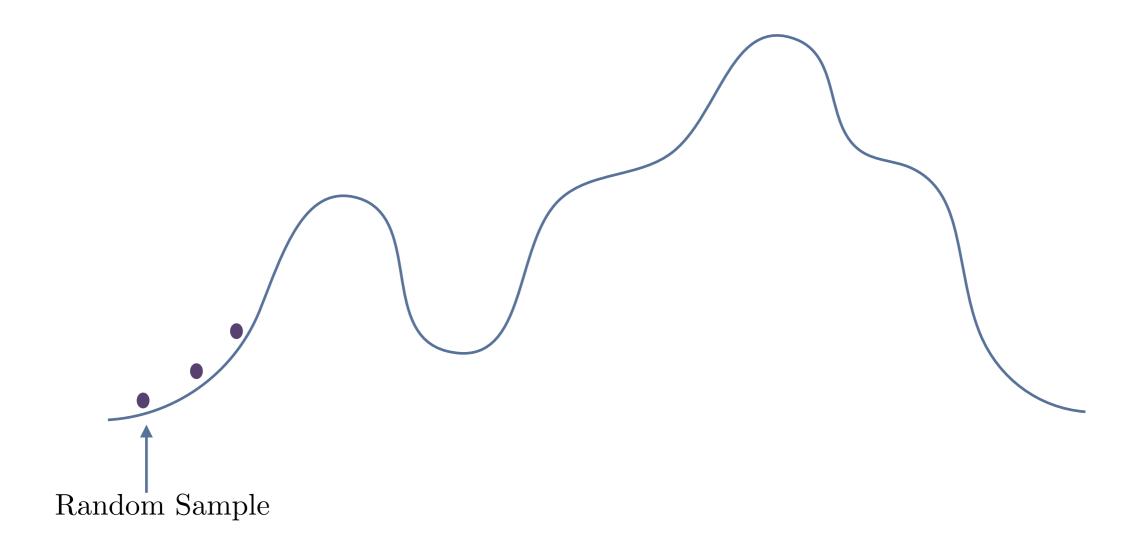
A much simpler problem....

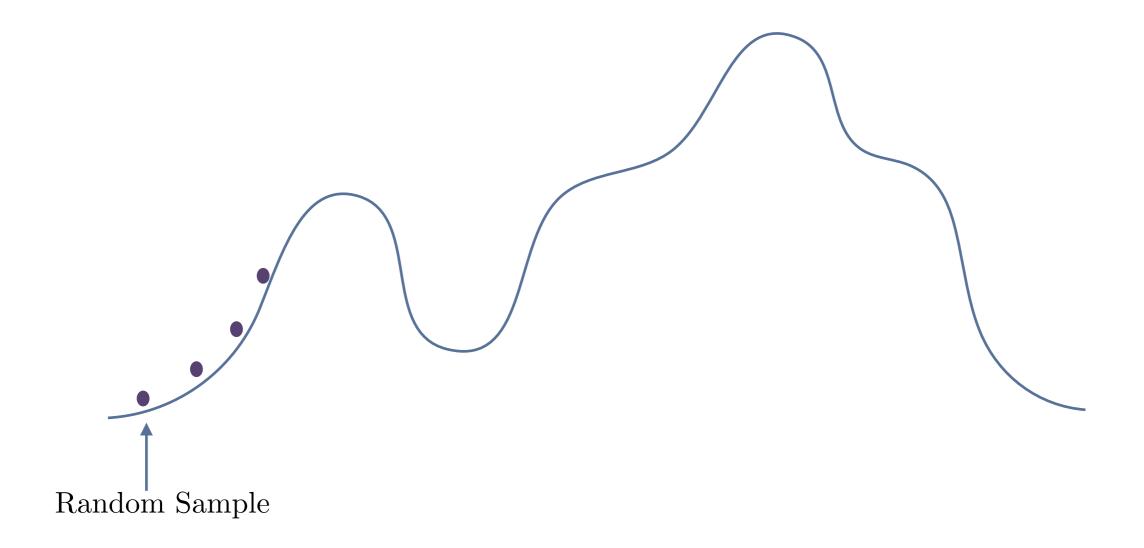


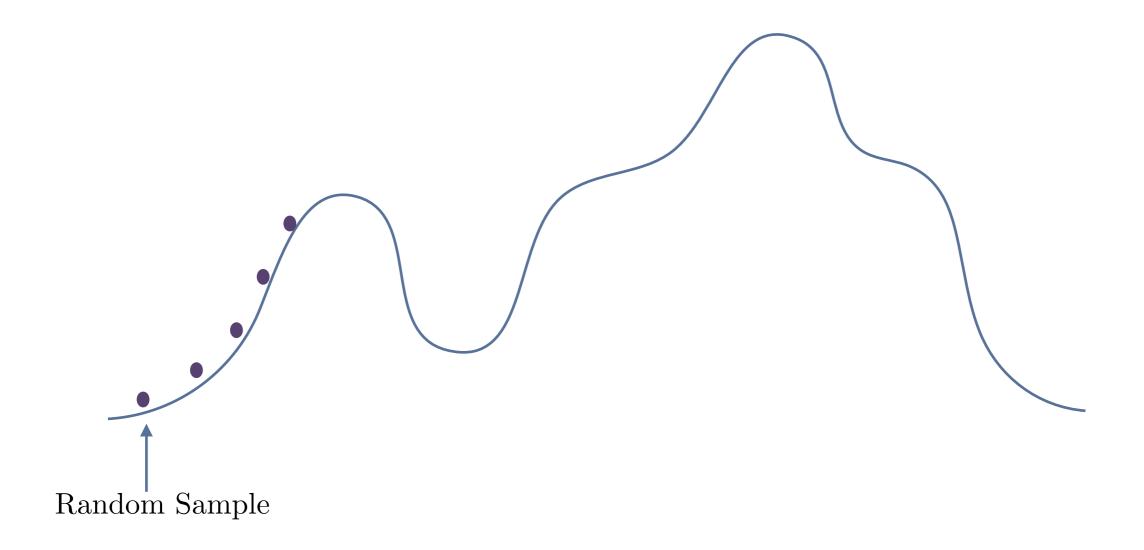
## LET'S FIND THE MAXIMA (MINIMA)

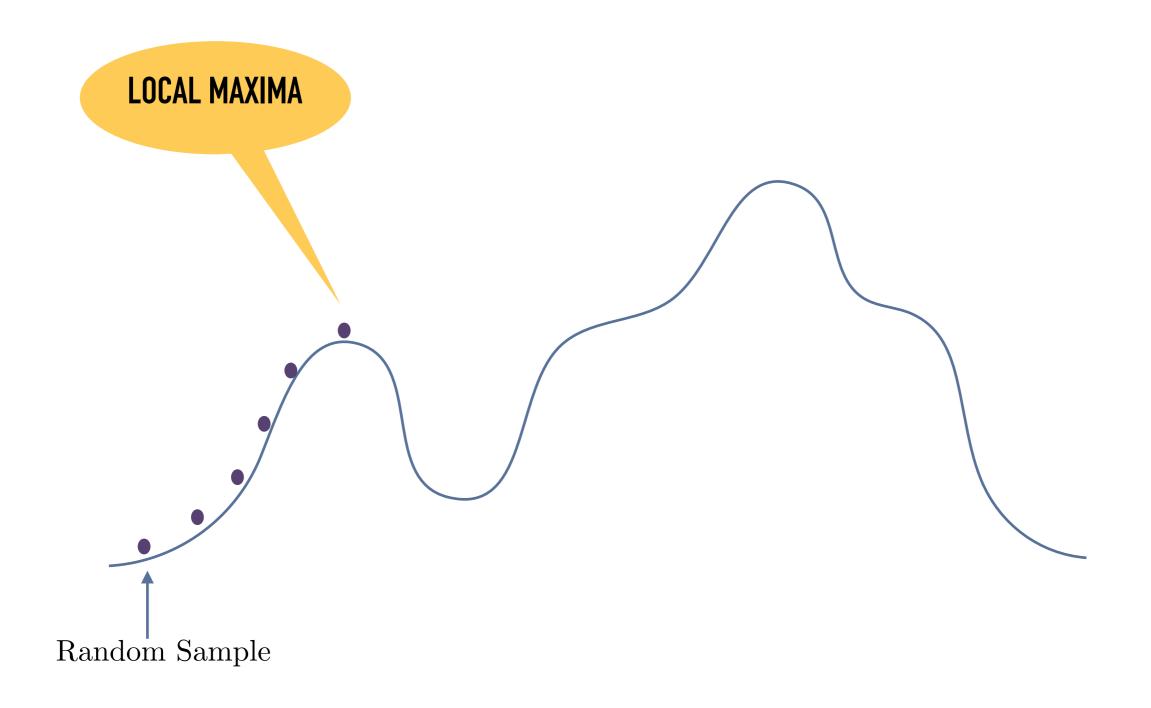


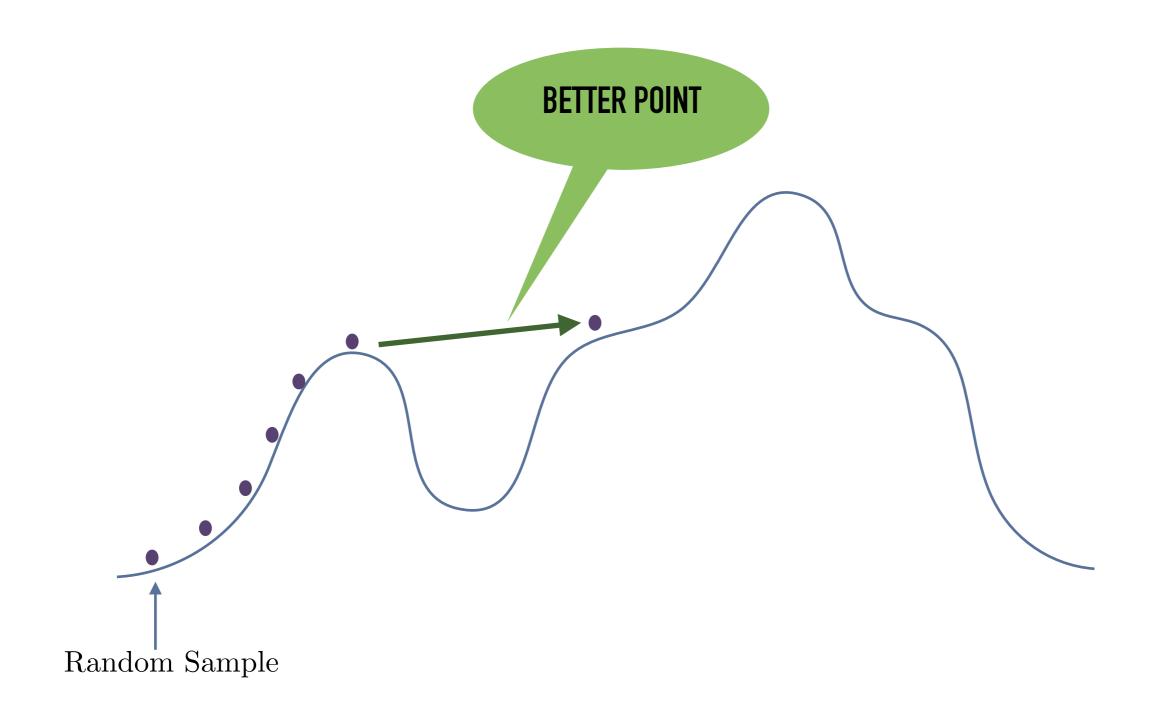


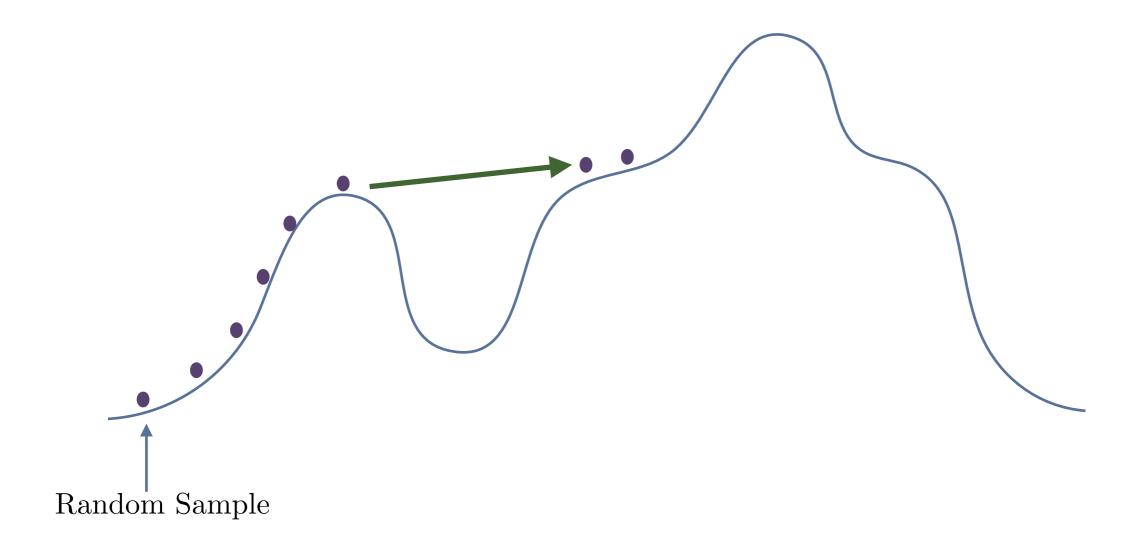


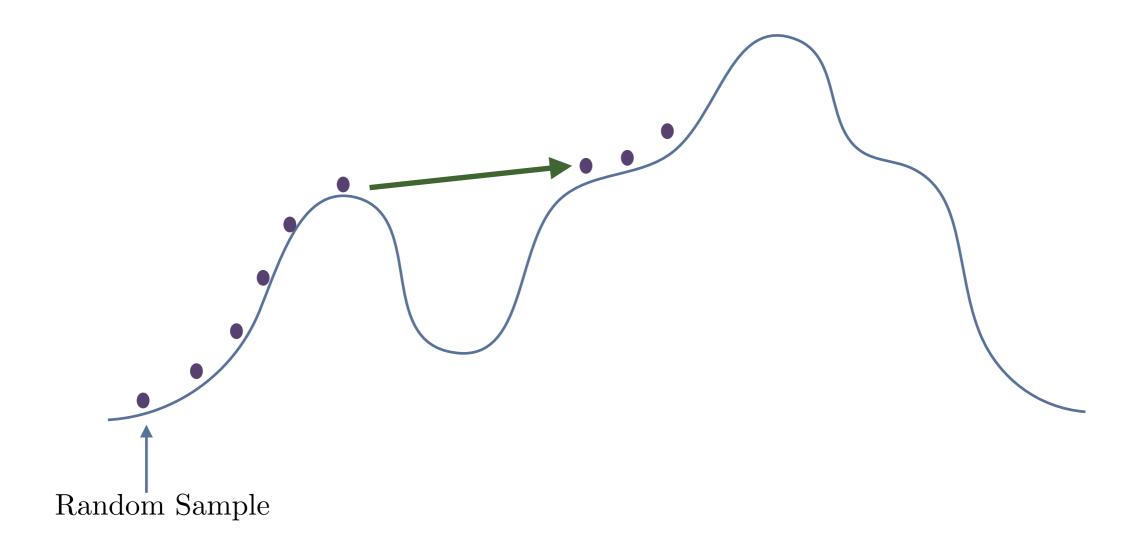


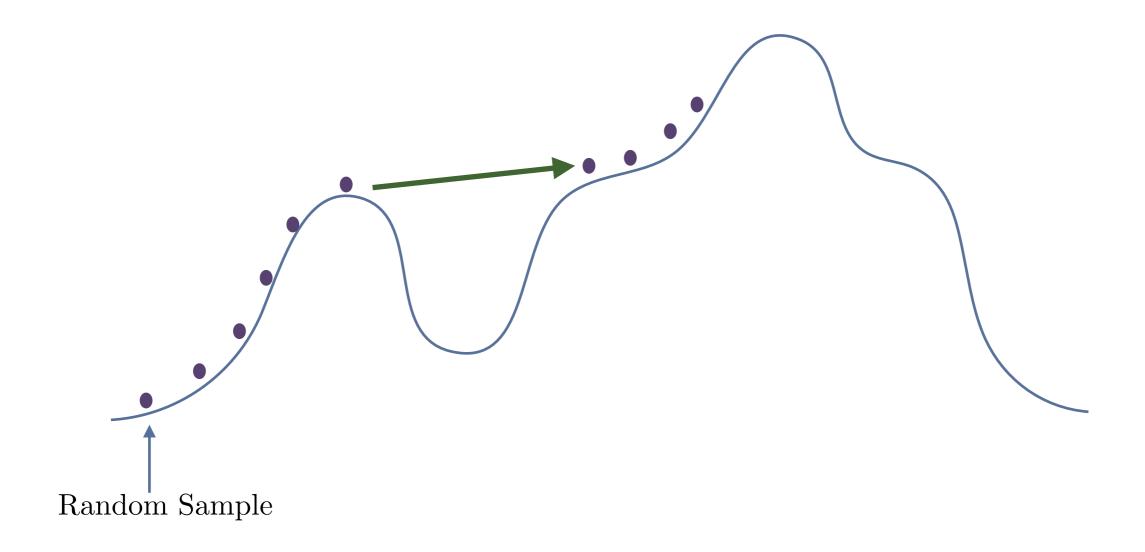


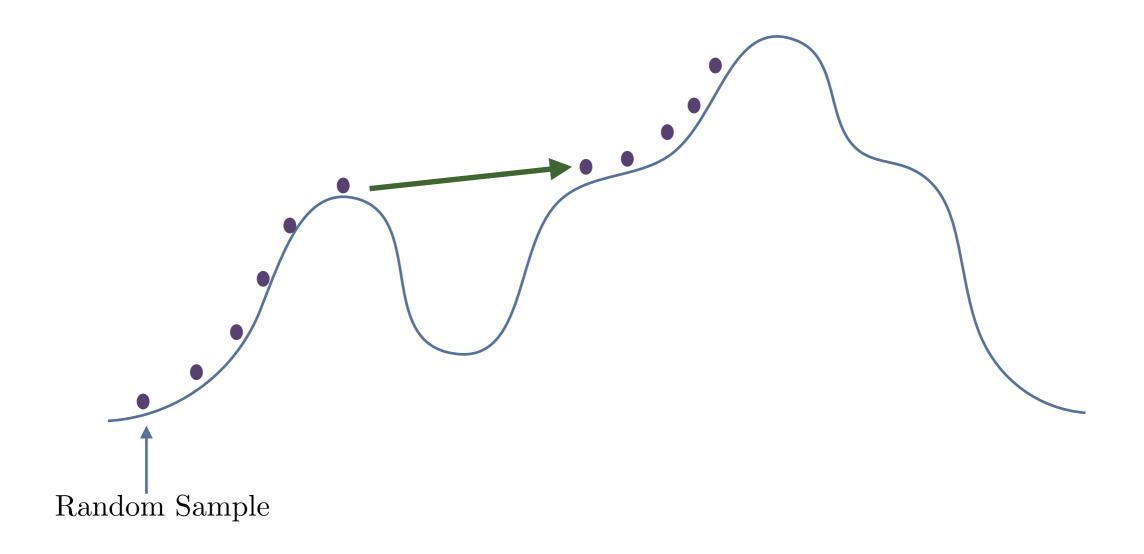


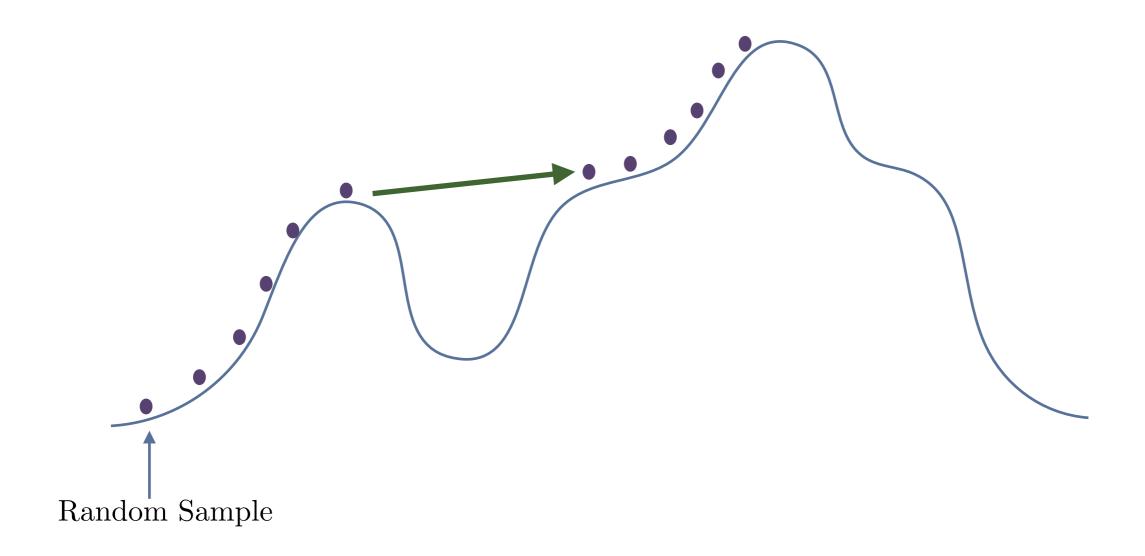


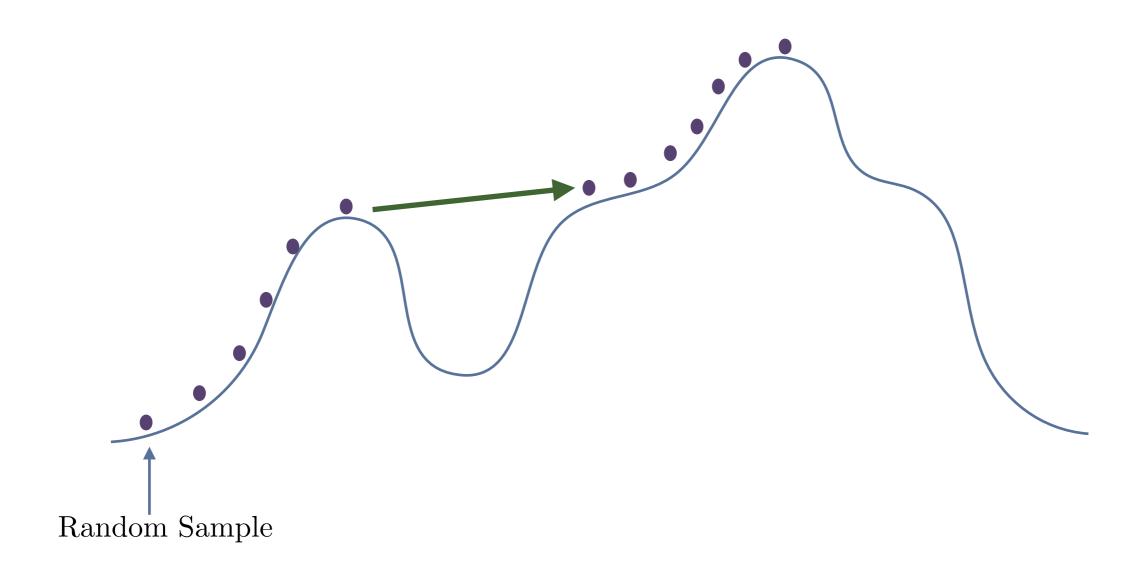


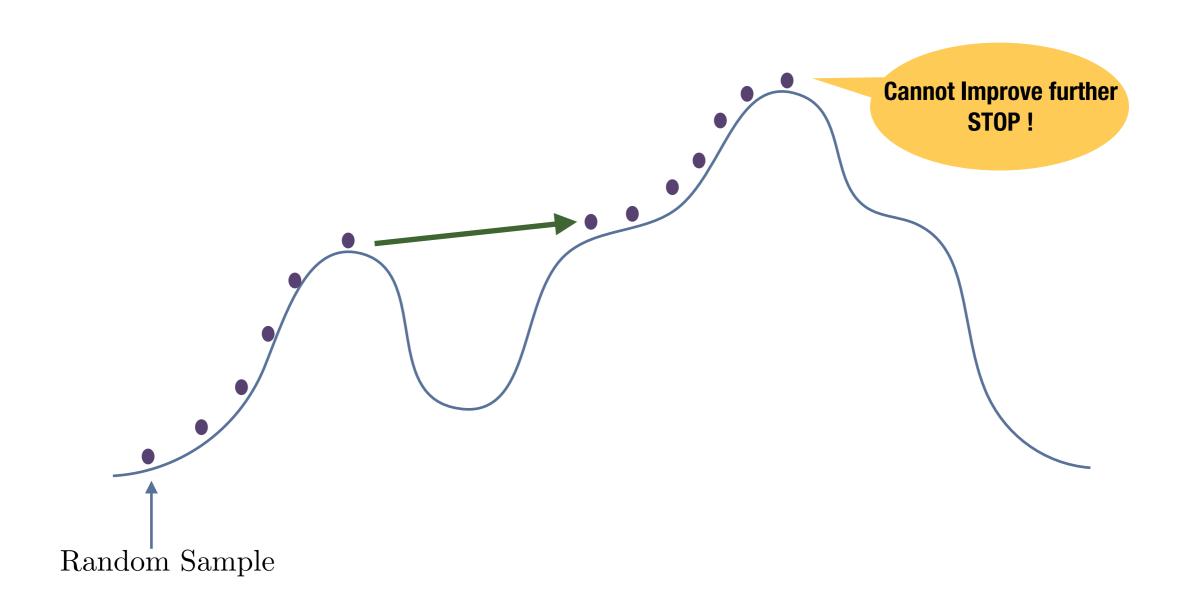


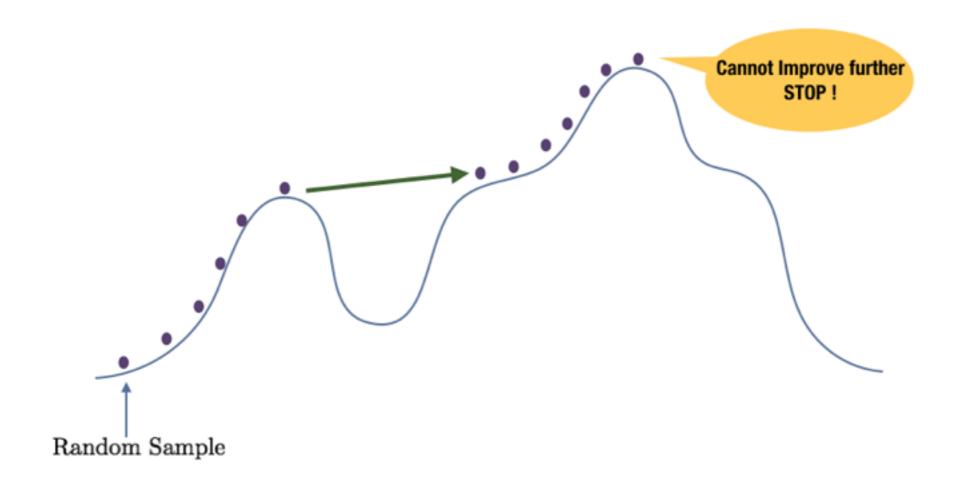












## **KEY COMPONENTS:**

- 1. Gradient search technique
- 2. Counter Example Generation

## Thanks!