Initialize population

a)

00011101010110110100

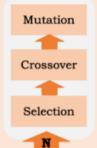
Split 5 bits by gate

'00011','10101','01101','10100'



First 3 Bits	Quantum Gates
000	Hadamard
001	CNOT
011	Rx
111	Ry
100	Rz

Last 2 Bits	Angles
00	π
01	$\pi/2$
10	$\pi/4$
11	$\pi/8$



Early stopping Conditions

Select N

Individuals

Return Best Individual



 $\mathcal{U}(x;\theta)$



Evaluation Function (Fitness)

- gates Fitting QSVM and Accuracy on test

Calculating number of

 $K(\vec{x}, \vec{z}) = |\langle \Phi(\vec{x}) | \Phi(\vec{z}) \rangle|^2$