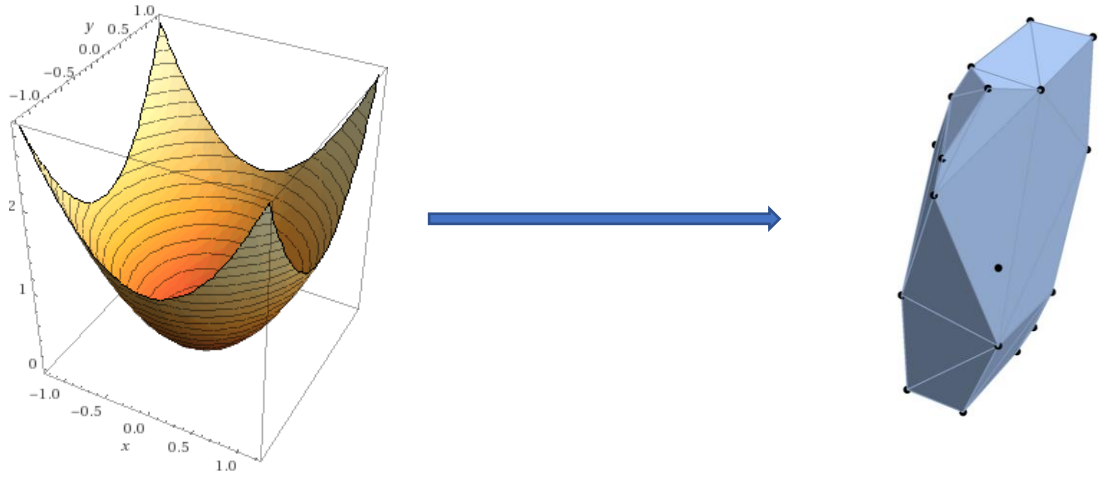
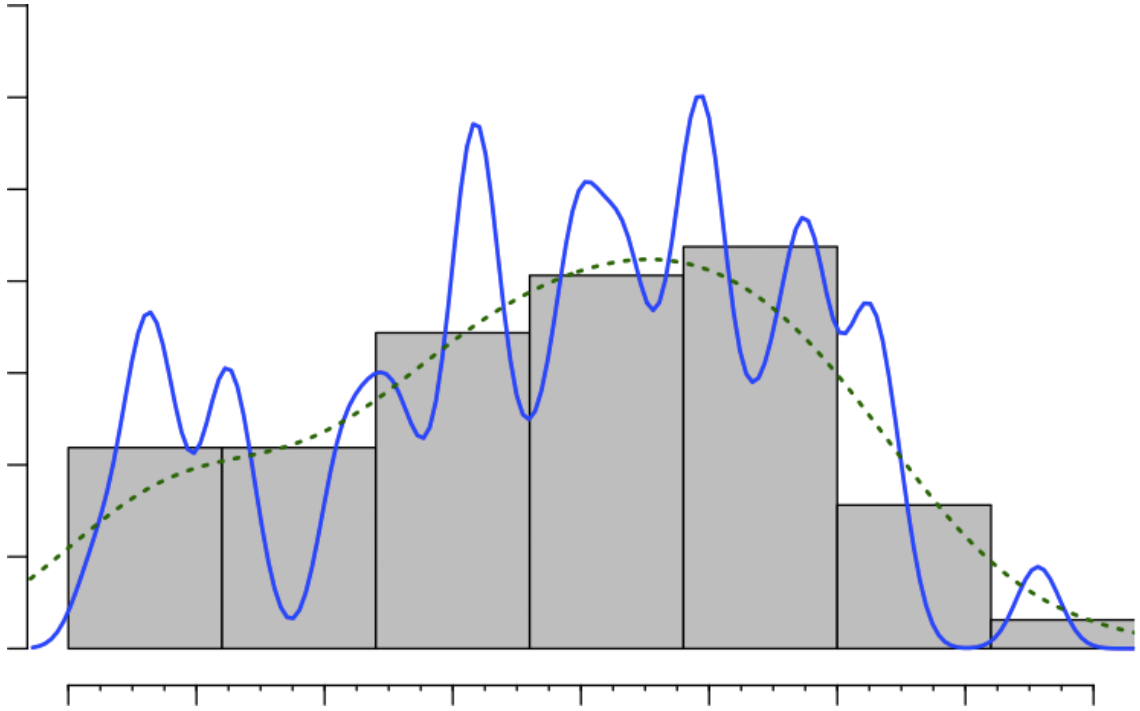
1. Optimising of ML Algorithms

- Can we pose a convex optimisation problem in ML using known quantum techniques?
- If not, can we construct new techniques?



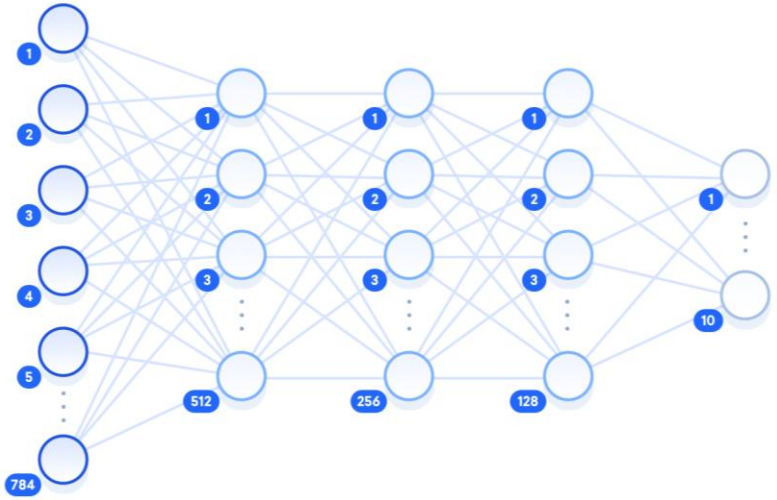
2. Sampling from Probability Distribution

- Simultaneous Localisation and Mapping approximates distribution which one cannot take samples from
- Can we improve the sampling accuracy using quantum computing?



3. Training Neural Networks

- Can we efficiently train basic neural networks (MLP) with quantum computing? Previous attempts have failed to prove a quantum advantage [1]



[1] Henderson, M., Shakya, S., Pradhan, S. and Cook, T., 2020. Quanvolutional neural networks: powering image recognition with quantum circuits. Quantum Machine Intelligence, 2(1), pp.1-9.