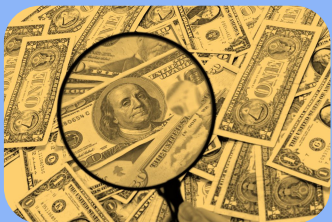# Coast to Coast

Xiaoran Li, Mark Long,
Maryam Mirkamali, Nate Stemen

① PROBLEM

200 million counterfeit USD in circulation!

Dataset (after PCA):
- **4** features
- **1372** examples
- **10%** train, **90%** test

② TECHNICAL PROOF OF CONCEPT

Variation Quantum Classifier

Z-FeatureMap + Two-Local Ansatz
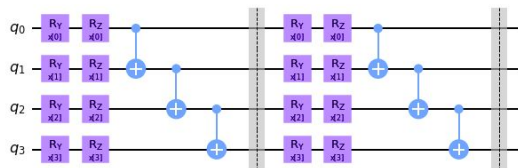

73.3%

80.0%

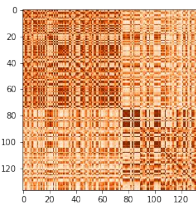#### Custom encoder + Two-Local Ansatz

91.9%

91.4%

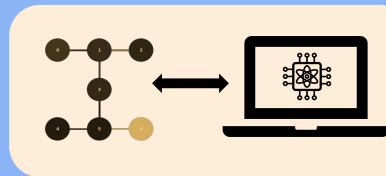### Quantum Support Vector Machine

Custom Feature Map

96.4%   95.4%

③ FUTURE

Hybrid Classification Architecture

④ TEAMWORK