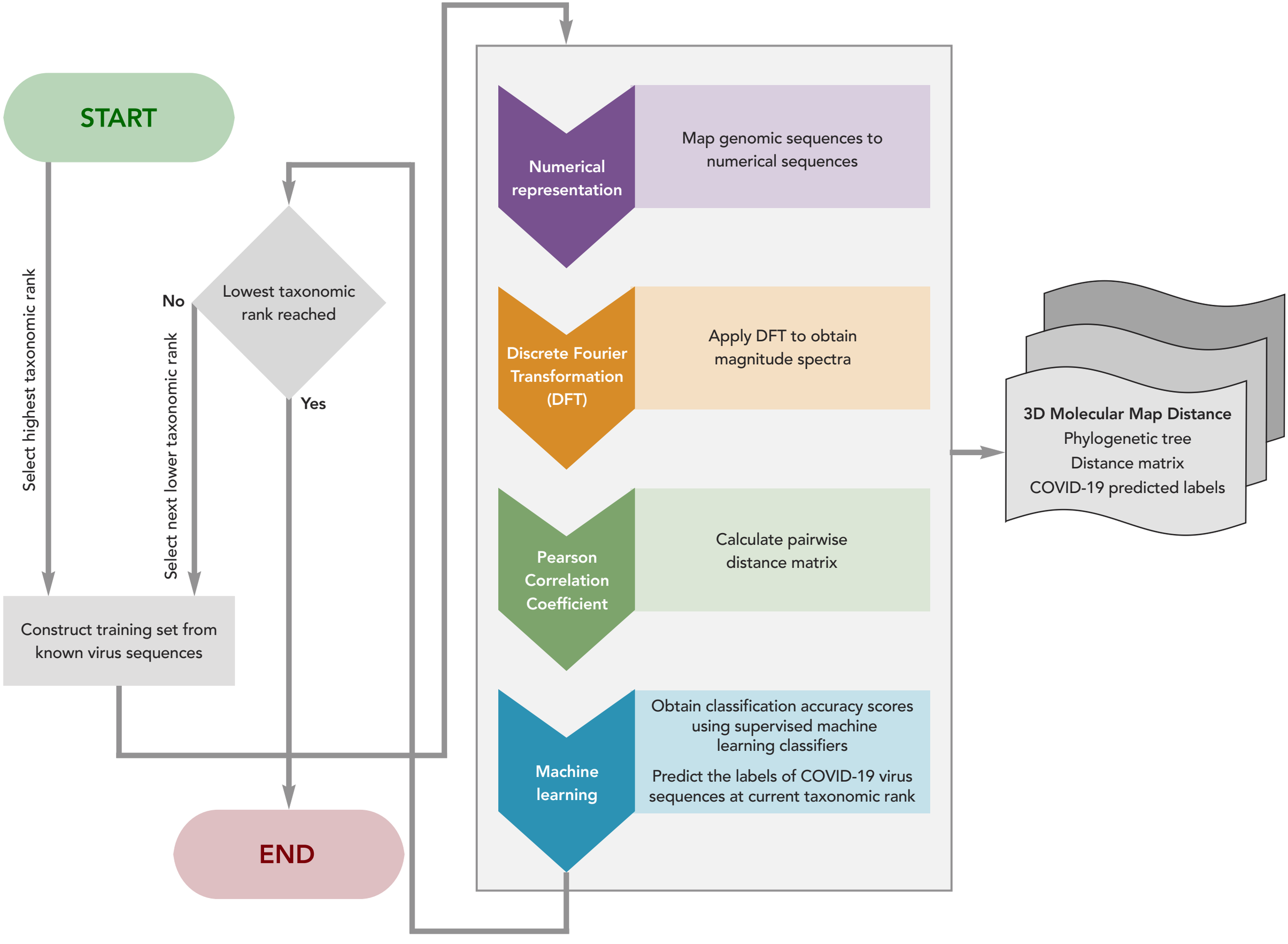
START
Select highest taxonomic rank
Construct training set from known virus sequences
Lowest taxonomic rank reached
No
Select next lower taxonomic rank
Yes
END
Numerical representation
Map genomic sequences to numerical sequences
Discrete Fourier Transformation (DFT)
Apply DFT to obtain magnitude spectra
Pearson Correlation Coefficient
Calculate pairwise distance matrix
Machine learning
Obtain classification accuracy scores using supervised machine learning classifiers
Predict the labels of COVID-19 virus sequences at current taxonomic rank
3D Molecular Map Distance
Phylogenetic tree
Distance matrix
COVID-19 predicted labels