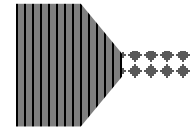
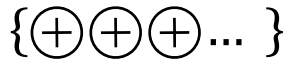
Pipeline





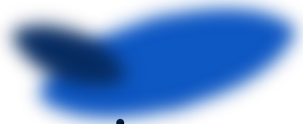
Dataset

Raw Fields
Latitude, Longitude, Altitude, RSSI, SINR, RSRP, RSRQ

Filter
Remove null values, values outside normal range

Features
Tower Distance & Direction
SINR-Weighted RSSI

Compile
Raw Fields appended with Features



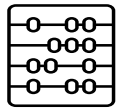
Gaussian set

Compile
Gather Gaussian sets where each has mean pose and covariance

Assign Pose
Decide Gaussian position from mean pose of points in cluster

Compute Covariance
Perform pairwise Euclidean distances, and present covariance matrix using exponential decay function

Clustering
Group points using distance-based scheme (DBSCAN)



Transformer

Reshape Input
Gaussian set, Dataset matrix reshaped into Tensor

Attention
Mult-headed self attention mechanism with positional encoding

Feed Forward Network
Extract high-level features using ReLU for non-linearity

Output Layer
Convert results from embedding space to numerical value via linear regression, a value for each sample

© copyright UEA

University of East Anglia