Bronco Learn

A K-means Algorithm

For a 13 Dimension Dataset

Erali Shah

Rohan Oswal

Brett Castello

Introduction

Algorithm

High Level Design

Low Level Design

Code

Optimization

Problem / Solution

Problem

- Dataset of 178 rows
- Thirteen different dimensions
- Skewed with outliers
- No labels or outputs

Solution

- Isolate clusters
- Unsupervised Algorithm
- Number of clusters
- Optimize / Measure Performance

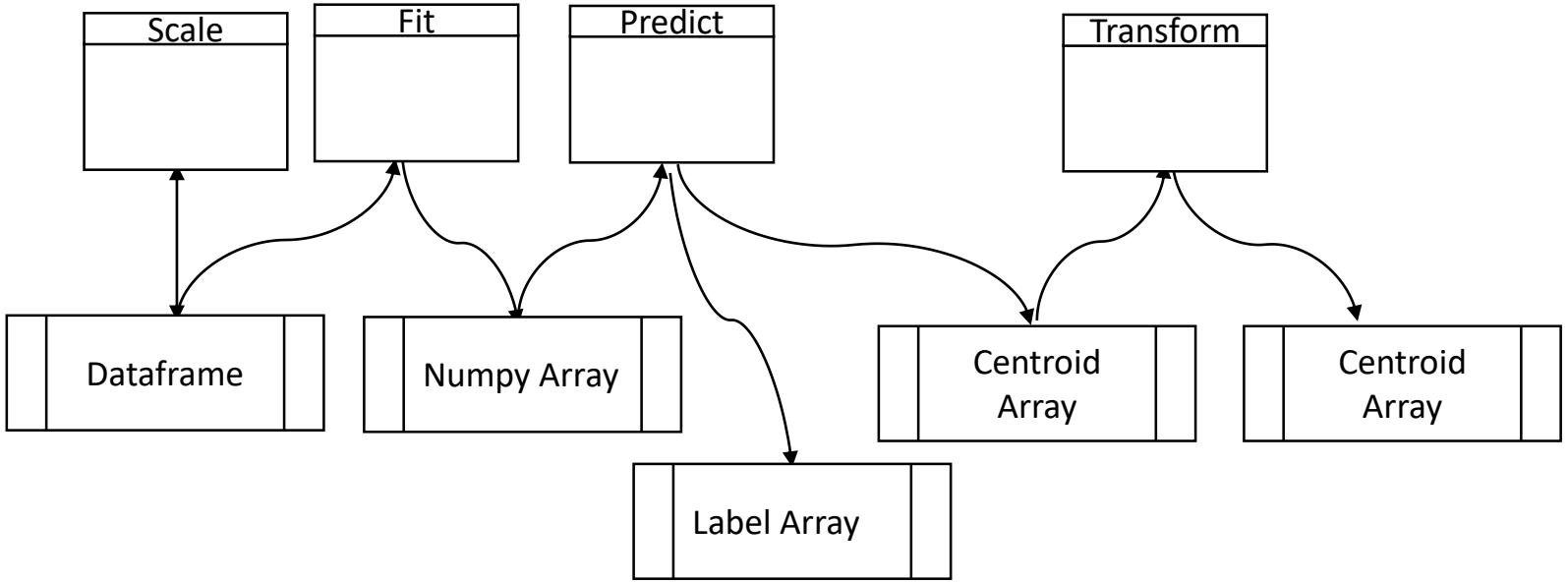
Algorithm

Unsupervised Learning

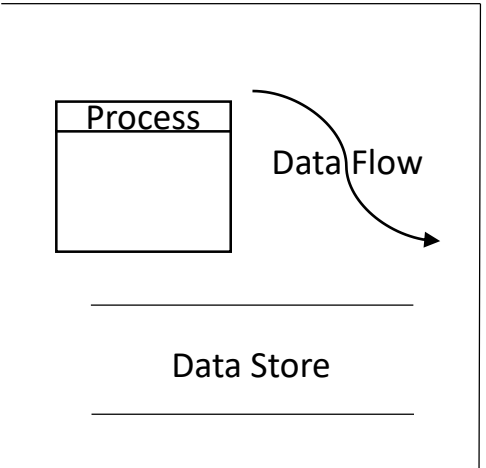
K “means”

- Five different distance formulas

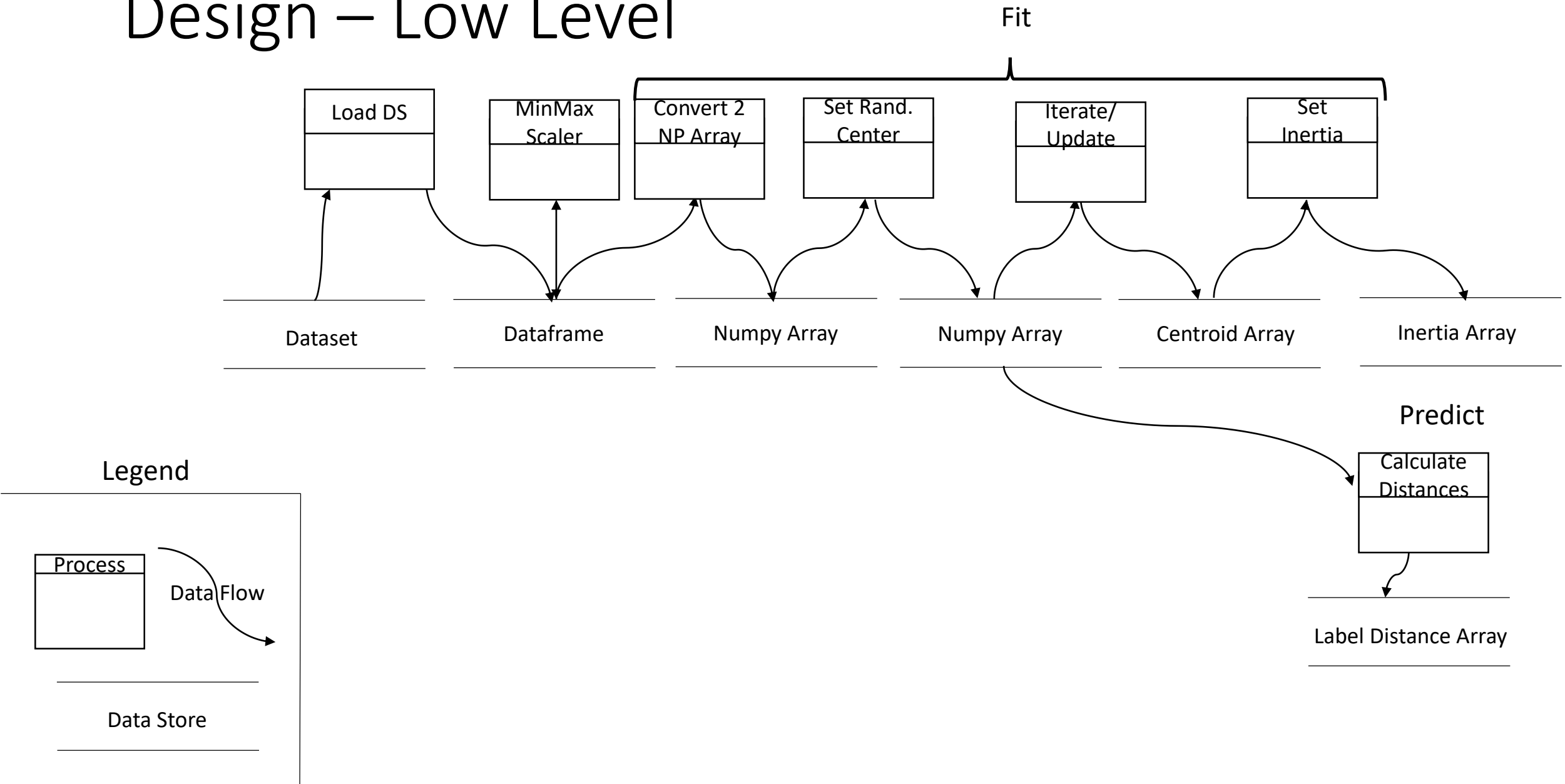
Design – High Level



Legend



Design – Low Level



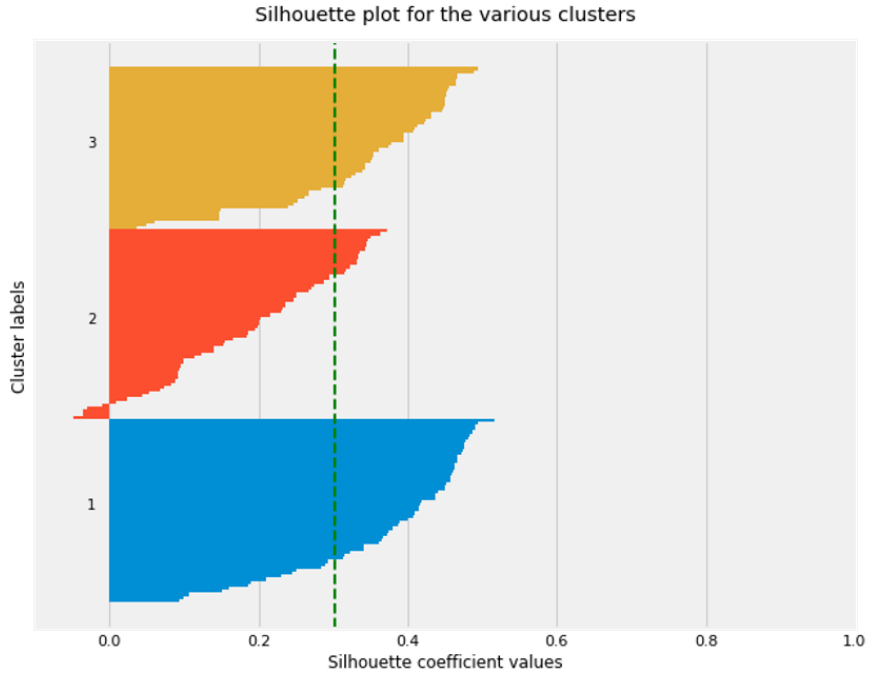
Optimization

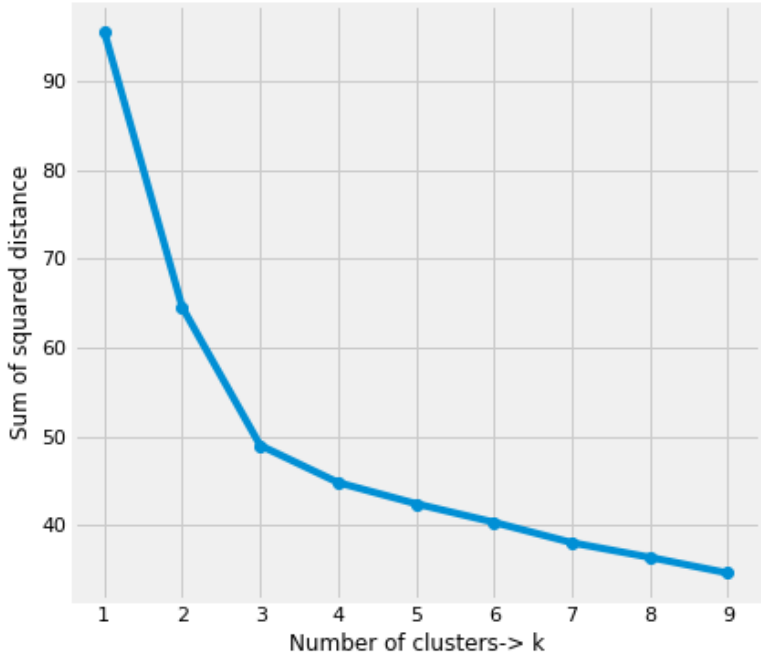
Four different metrics

- Inertia score
- Silhouette score
- Calinski harabaz index
- Davies bouldin score

Best: k=3

Best Distance Metric: Euclidean





Questions?