

Data Visualization

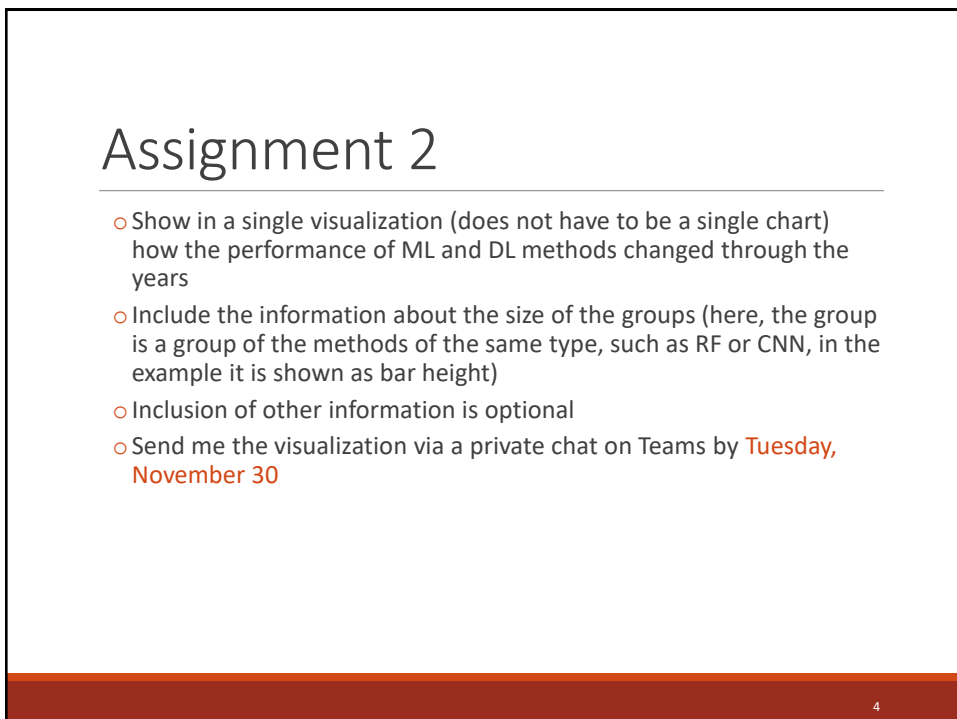
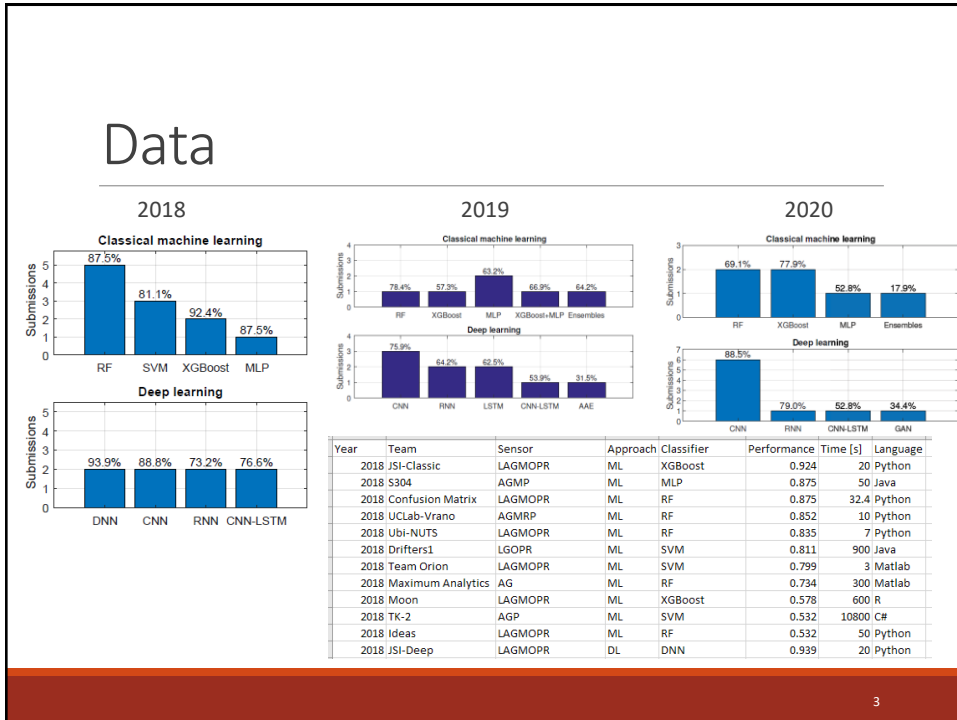
ASSIGNMENT 2: RESULTS

Tea Tušar, Data Science and Scientific Computing, Information retrieval and data visualization

Introduction

Data from three SHL Challenges

- SHL Challenge = Sussex-Huawei Locomotion-Transportation Recognition Challenge
- Organized at the UbiComp conferences in 2018, 2019 and 2020
- Challenge: recognize eight transportation activities (Still, Walk, Run, Bike, Bus, Car, Train, Subway) from the inertial and pressure sensor data of a smartphone
- Several competitors used a range of classical machine learning (ML) and deep learning (DL) classifiers to solve the challenge



Additional information

Methods

- AAE = Adversarial Autoencoder
- CNN = Convolutional Neural Network
- GAN = Generative Adversarial Network
- LSTM = Long Short-Term Memory Network
- MLP = Multilayer perceptron
- RF = Random forest
- RNN = Recurrent Neural Network

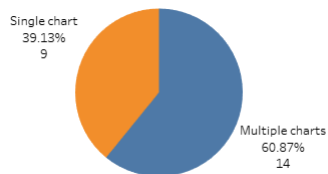
Sensors

- L = Linear accelerometer
- A = Accelerometer
- G = Gyroscope
- M = Magnetometer
- O = Orientation
- P = Pressure
- R = Gravity

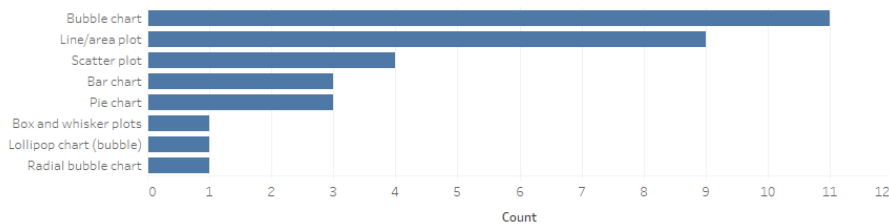
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Visualizations by 23 students

Number of charts



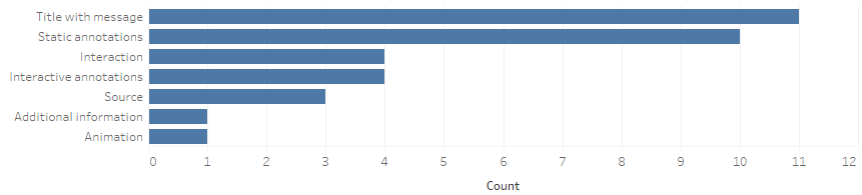
Types of charts



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Visualizations by 23 students

Other properties



Actually, the value for Additional information is 2, not 1

2020: Convolutional Neural Network Dominates

