Domande Machine Learning

**2nd call July 2023**

Q1 describe and compare PCA and LDA covering the following aspects:

\* Goals of the 2 models and their formulations

\* Training objectives of the 2 models

\* characteristics of the PCA principal components and the LDA discriminant directions

\*how the 2 models can be employed for classification

Q2)- Describe the GMM in the context of density estimation and pattern classification , covering the following aspects:

\* definition of the model interpretation of the model parameters and formulation of the GMM as a latent variable model

\* estimation of the models params

\* how the model can be used to solve classification problems, including open-set tasks.

\* potential issues of isssues of GMMs, possible way to address this issues and possible variations of the models.

He asked mvg standard, tied

and naive bayes

Then LR, comparison with

SVM loss function and how to

extend them to build non linear

decision boundaries

MVG and Binary Logistic Regression

comparison between svm loss function and logistic loss function