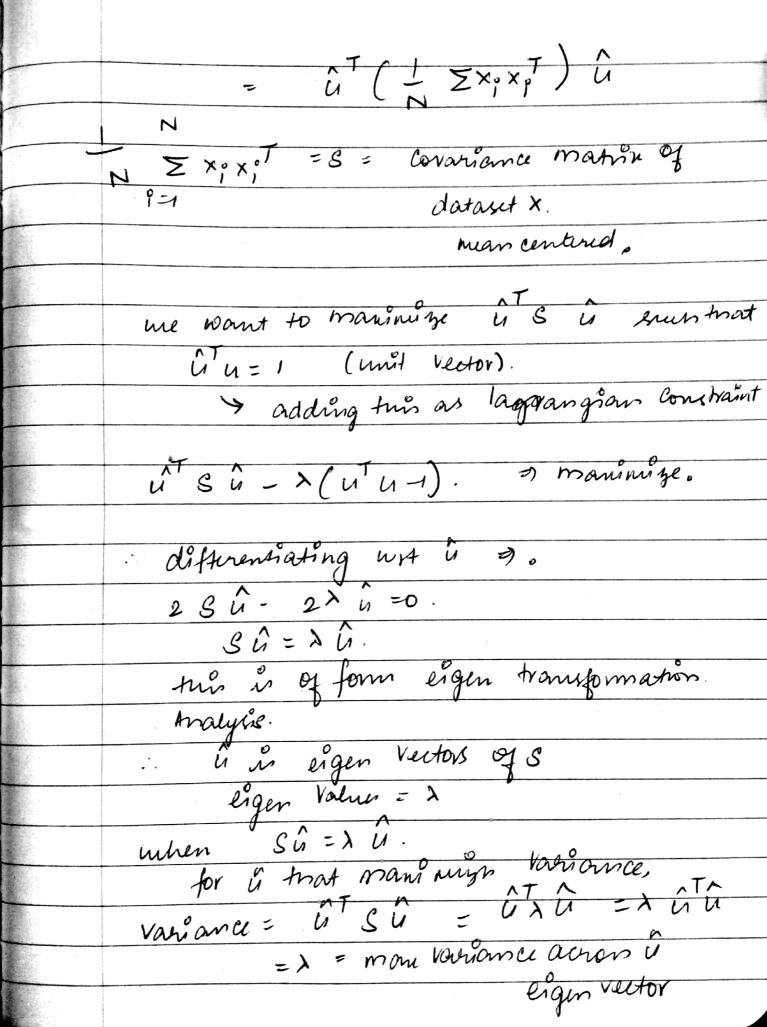
| t to the ground and consider to generalize relicions and and a difference | Principal Component Analysis. PCA. |
|---|--|
| | given a dataset X |
| | given a dataset X (NXD) N-rows - datpoints. |
| | D-Colums-d'mensions. |
| | X° ERD |
| - À | me want to transform |
| | $(N \times M)$ $\rightarrow Z$ $(N \times M)$ |
| | Suchthat MALL D |
| | while perforning transformation lets |
| | while perforning transformation, lets Preserve variance in the dataset. |
| y * | -> perform mean centering on the dataset |
| | Say there is a unit Kector is (DX) such that the variance across is is maniquemen |
| | such that the variance across à is |
| | mani rumo |
| , | me count to compute à |
| | |
| | Variance => projecting x across û |
| | $= \perp \sum_{i=1}^{\infty} (x_{i}^{T} \hat{u})^{2}$ |
| | Variance => projecting x across û = 1 \(\sum_{\chi} \subseteq \times \ |
| | |



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