LA26

Niklas - G16

Me

noberhuber@ethz.ch

LinAlg G16
WhatsApp group

ETH zürich

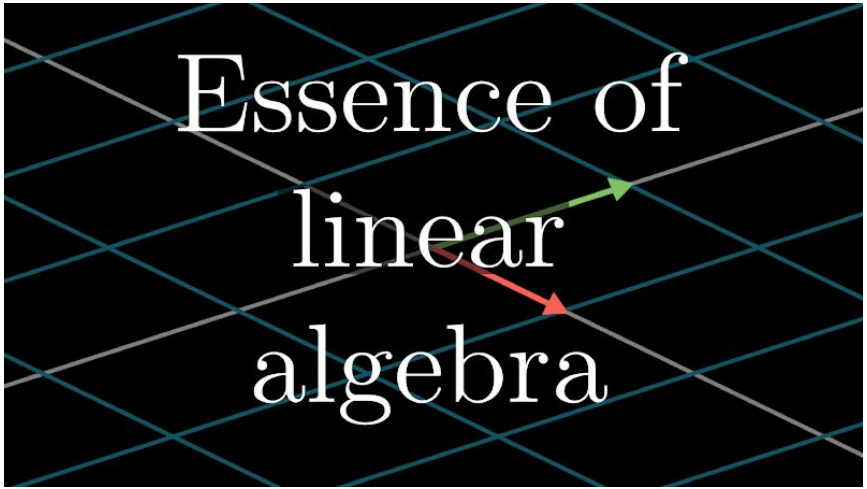
Generelle Tips

- linalg.guru -> unsere Website
- cs.shivi.io -> eure neue Lieblingswebsite

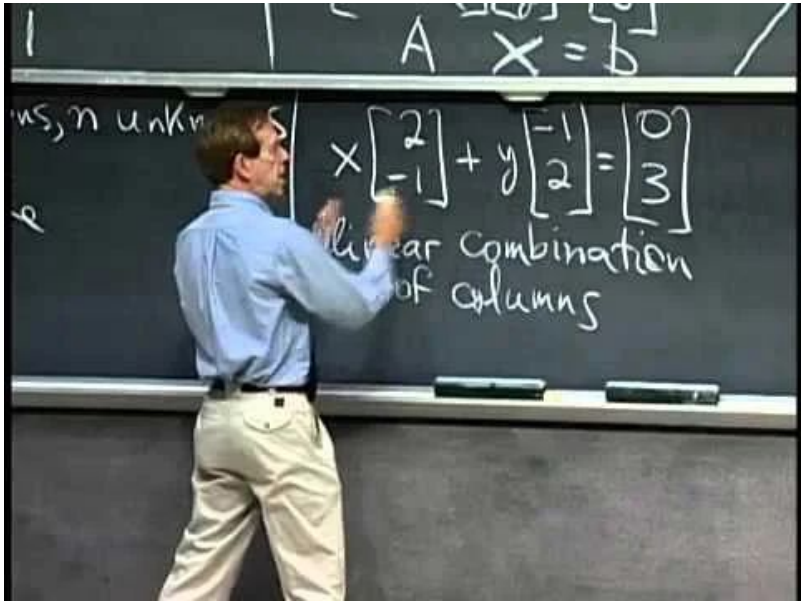
- Die ersten 2 Wochen
-

Lineare Algebra

Lineare Algebra



https://www.youtube.com/playlist?list=PLZHQObOWTQDPD3MizzM2xVFitgF8hE_ab



https://ocw.mit.edu/courses/18-06-linear-algebra-spring-2010/video_galleries/video-lectures/

Bonus

- Quiz alle zwei Wochen. Erstes nächste Woche
- +0.25 Notenpunkte auf ungerundete Klausurnote

$$\min\left(\frac{0.25}{5}\sum_{i=1}^{7} p_i,\ 0.25\right)$$

- Nur zugewiesener TA kann benoten (ich :))

Bonus

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$$\min\left(\frac{0.25}{5}\sum_{i=1}^{7} p_i,\ 0.25\right)$$

Ihr braucht 72%

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Freiwillige Aufgaben

- Upload: Mittwoch Nachmittag
- Abgabe: Dienstag der Folgewoche 23:59
- Moodle Quizzes + Challenges aus dem Skript (gerne auch schicken)

Overview Themen

Part 1

- Vektoren
- Skalarprodukte, CS, Triangle inequality
- Matrizen (Multiplikaton, Column Space, Rank, …)
- Decompositions, Gauss, RREF
- Abstrake Vektorenräume, Fundamental Subspaces

Part 2

- Orthogonality
- Pseudoinverse
- Determinanten
- Eigenvektoren und Eigenwerte
- Diagonalisierung, Spektraltheorem, SVD

Diskrete Mathematik

Algorithmen und Datenstrukturen

Ankis?

https://notes.obrhubr.org/Anki-Cards

Programm Heute

a) Suppose that you would like to mix the perfect long drink from the two ingredients G and T. Your sources tell you that the perfect long drink is defined as 23ml of G and 77ml of T. Unfortunately, your friends already mixed two imperfect drinks: One with 15ml of G and 85ml of T, and another one with 35ml of G and 65ml of T. How can you use the two imperfect drinks to make one perfect drink?

b) One could model the set of all possible 100ml drinks mixed from G and T as

$$D := \{\begin{pmatrix} g \\ t \end{pmatrix} \in \mathbb{R}^2 : g + t = 100, g \geq 0, t \geq 0\}.$$

The two imperfect drinks are then represented by the vectors $\mathbf{v} = \begin{pmatrix} 15 \\ 85 \end{pmatrix} \in D$ and $\mathbf{w} = \begin{pmatrix} 35 \\ 65 \end{pmatrix} \in D$, respectively. Using this formulation, write down the set $\hat{D} \subseteq D$ of all 100ml drinks that you could mix from $\mathbf{v}$ and $\mathbf{w}$. What geometric shape does this set have?

c) Finally, we consider the set $\overline{D}$ of drinks of any size that can be mixed from the two drinks $\mathbf{v}$ and $\mathbf{w}$. What geometric shape does $\overline{D}$ have?