

DAILY ASSESSMENT FORMAT

Date:	16th July 2020	Name:	Rajeshwari Gadagi
Course:	coursera	USN:	4AL17EC076
Topic:	Mathematics for machine learning:Linear Algebra	Semester & Section:	6th sem 'B' sec
Github Repository:	Rajeshwari-gadagi		

FORENOON SESSION DETAILS

Image of session

Mathematics for Machine Learning: Linear Algebra > Week 4 > Introduction: Einstein summation convention and the sym

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Matrices as objects that map one vector onto another: all the types of matrices

• Video: Introduction: Einstein summation convention and the symmetry of the dot product 9 min


Practice Quiz: Non-square matrix multiplication 8 questions

Practice Quiz: Example: Using non-square matrices to do a projection 6 questions

Matrices transform into the new basis vector set

Making Multiple Mappings, deciding if these are reversible

Introduction: Einstein summation convention and the symmetry of the dot product



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English

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Notes

All notes

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Mathematics for Machine Learning: Linear Algebra > Week 4 > Orthogonal matrices

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Video: Introduction: Einstein summation convention and the symmetry of the dot product 9 min

Practice Quiz: Non-square matrix multiplication 8 questions


Practice Quiz: Example: Using non-square matrices to do a projection 6 questions

Matrices transform into the new basis vector set

Video: Matrices changing basis 11 min

Video: Doing a transformation in a changed basis 4 min

Orthogonal matrices



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Mathematics for Machine Learning: Linear Algebra > Week 4 > The Gram-Schmidt process

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Mappings, deciding if these are reversible

Video: Orthogonal matrices6 min

Recognising mapping matrices and applying these to data

Video: The Gram-Schmidt process6 min


Notebook: Gram-Schmidt process1h

Video: Example: Reflecting in a plane14 min

Notebook: Reflecting Bear30 min

Programming Assignment: Gram-

The Gram-Schmidt process



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https://www.coursera.org/learn/linear-algebra-machine-learning/lecture/25C16/the-gram-schmidt-process



Mathematics for Machine Learning: Linear Algebra > Week 3 > Using matrices to make transformations

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Video: How matrices transform space3 min

Video: Types of matrix transformation8 min

Video: Composition or combination of matrix transformations8 min

Practice Quiz: Using matrices to make transformations5 questions

Matrix Inverses

Special matrices and coding up some matrix operations

Video: Determinants and inverses12 min

Notebook: Identifying

PRACTICE QUIZ - 30 MIN

Using matrices to make transformations

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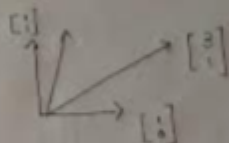
https://www.coursera.org/learn/linear-algebra-machine-learning/lecture/5f6c3/testing-the-apple-and-banana-problem-gaussian-elimination



Einstein summation convention and the sum of the dot product:-

$$\begin{pmatrix} a_1 & a_2 & \dots & a_n \\ a_{21} & a_{22} & \dots & a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{n1} & a_{n2} & \dots & a_{nn} \end{pmatrix} \begin{pmatrix} b_1 & b_2 & \dots & b_n \\ b_{21} & b_{22} & \dots & b_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ b_{n1} & b_{n2} & \dots & b_{nn} \end{pmatrix} = \begin{pmatrix} \dots \\ \dots \\ \dots \\ \dots \end{pmatrix}$$

$$(ab)_{13} = a_{11}b_{13} + a_{12}b_{23} + \dots + a_{1n}b_{n3}$$



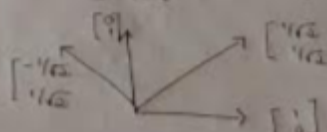
Bob's basis vectors $\begin{bmatrix} 2 \\ 1 \end{bmatrix} \begin{bmatrix} 1 \\ 2 \end{bmatrix}$ in my frame.

$$\frac{1}{2} \begin{bmatrix} 2 & 1 \\ 1 & 2 \end{bmatrix} \begin{bmatrix} 2 \\ 1 \end{bmatrix} = \begin{bmatrix} 5 \\ 2 \end{bmatrix} = 3 \begin{bmatrix} 2 \\ 1 \end{bmatrix} + 2 \begin{bmatrix} 1 \\ 2 \end{bmatrix} = \frac{1}{2} \begin{bmatrix} 8 \\ 6 \end{bmatrix}$$

$$\frac{1}{2} \begin{bmatrix} 2 & 1 \\ 1 & 2 \end{bmatrix} \begin{bmatrix} 1 \\ 2 \end{bmatrix} = \frac{1}{2} \begin{bmatrix} 3 \\ 5 \end{bmatrix}$$

$$\frac{1}{2} \begin{bmatrix} 2 & 1 \\ 1 & 2 \end{bmatrix} \frac{1}{2} \begin{bmatrix} 1 \\ 2 \end{bmatrix} = \frac{1}{2} \begin{bmatrix} 4 \\ 5 \end{bmatrix} = \begin{bmatrix} 2 \\ 2.5 \end{bmatrix}$$

$$\frac{1}{2} \begin{bmatrix} 1 \\ 2 \end{bmatrix} \cdot \frac{1}{2} \begin{bmatrix} 1 \\ 2 \end{bmatrix} = \frac{1}{2} \cdot 5 = \frac{5}{2}$$



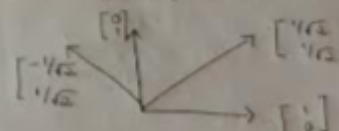
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Orthogonal Matrices:-

$$A_{ij}^T = A_{ji}$$

$$\begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}^T = \begin{pmatrix} 1 & 3 \\ 2 & 4 \end{pmatrix}$$

$$(a_1)(a_2) \dots (a_n)$$

$$a_i a_j = 0 \quad i \neq j$$

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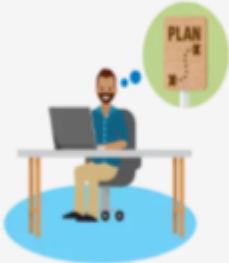
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AFTERNOON SESSION DETAILS

image of session

Creating your action plan

Now that you've identified one or two target roles that you're interested in pursuing, it's time to make a concrete action plan for what you need to do to prepare for that role.



There are three main areas to consider in developing your career plan.

1. **Learning:** what are the skills you need to acquire, and where can you learn them?
2. **Earning:** what credentials do you need for this role and how can you demonstrate your skills to employers?
3. **Connecting:** what are ways to connect and network with others in the field?

Creating your action plan:

Now that you've identified one or two target roles that you're interested in pursuing it's time to make a concrete action plan for what you need to do to prepare for that role.

Developing your career plan:

There are three main areas to consider in developing your career plan.

Learning:

What are the skills you need to acquire, and where can you learn them?

Earning:

What credentials do you need for this role and how can you demonstrate your skills to employers?

Connecting:

What are ways to connect and network with others in the field?

Learning:

For most skills and roles, you can find many options for learning from self-paced online learning to instructor-led classes, events, and even formal degree programs. What type of learning you choose to do depends on your time, learning style, and budget. Sometimes what works best for you is a combination of different learning programs. There's no one right way. It's up to you to choose the adventure that works best for you.

Learn Online:

One of the best ways to skill up for Salesforce career paths is through Trailhead. The fun, free, hands-

on way to learn. If you're new to Trailhead, here are a few recommendations on where to start.

Check out a few resources to get you started.

- *Trailhead Collaboration Group on the Trailblazer Community

- *Salesforce User Groups

- *Salesforce Developer Meetups

- *Featured Online Collaboration Groups

For developers, there are some additional resources and ways to connect to the thriving community of more than 3 million Salesforce developers.

- *The Salesforce developers discussion forums are an important resource to get answers to

your questions. It's not uncommon for project managers, developers, and other R&D staff to contribute.

*On the Salesforce Stack Exchange, get expert guidance from an active developer community featuring some of the most prominent developers from across the globe.

*Using the #askforce hash tag on Twitter immediately connects you to hundreds of Salesforce

Administrators and developers. The answer to your 280-Character questions is sometimes only a few seconds away! Attend a Local Event: Can't get to Dreamforce? Attend an event then next time we roll into your home town.

These events give you the chance to attend great keynotes, learn first hand from leading customers how to be successful with Salesforce, and get up close and personal with our entire suite of products.

You can also find Salesforce User Groups in cities around the world that meet regularly to network and learn. Here are a few resources for finding in-person events.

Salesforce User Groups:

User groups are customer organized groups that meet online and in person. Join one today to network,

Share ideas, and get tips on how to get the most out of Salesforce.

Salesforce Developer Groups:

For person-to-person interaction, join a local Developer Group.

There are more than 160 groups around the world, and more are springing up all the time.

Salesforce Meetups:

Find independent local events to meet Salesforce users, administrators, and developers in your area.

Swap business cards and develop a support network of Salesforce professionals.

Community Events:

Join the community of Customer Trailblazers at an event near you. Keep an eye out for the Salesforce Developer Event and Salesforce Admin Events in your area as well.

