

DAILY ASSESSMENT FORMAT

Date:	13-07-2020	Name:	Sahana S R
Course:	coursera	USN:	4AL17EC083
Topic:	Mathematics for machine learning:Linear Algebra	Semester & Section:	6th sem 'B' sec
Github Repository:	sahanasr-course		

FORENOON SESSION DETAILS

Image of session

The screenshot shows a web browser displaying a Coursera lecture page. The URL is <https://coursera.org/learn/linear-algebra-machine-learning/lecture/T5FZ1/introduction-solving-data-science-challenges-with-mathematics>. The page title is "Introduction: Solving data science challenges with mathematics". The lecturer is Dr. David Dye, Professor of Metallurgy. The video player shows Dr. Dye speaking. To the left of the video is a sidebar with course navigation: "Welcome to this course", "Video: Introduction: Solving data science challenges with mathematics (2 min)", "Reading: About Imperial College & the team (5 min)", "Reading: How to be successful in this course (5 min)", "Reading: Grading policy (5 min)", "Reading: Additional readings & helpful references (10 min)", "Discussion Prompt: Nice to meet you! (15 min)", and "Complete our short pre-". To the right of the video is a "Notes" panel with a "Save Note" button and a "Discuss" button. The bottom of the page shows a Windows taskbar with the time 12:51 and date 13-07-2020.



Course for Students | Coursera | Doing some vector operations

coursera.org/learn/linear-algebra-machine-learning/guiz/LS2wX/doing-some-vector-operations

Rashmitha

Mathematics for Machine Learning: Linear Algebra | Week 1 | Doing some vector operations

Prev | Next

Welcome to this course

The relationship between machine learning, linear algebra, and vectors and matrices

Vectors

- Video: Operations with vectors 11 min
- Practice Quiz: Doing some vector operations 7 questions

Summary

PRACTICE QUIZ • 30 MIN

Doing some vector operations

Submit your assignment

Try again

Receive grade

TO PASS: 80% or higher

Grade 100%

View feedback

We keep your highest score

Share | Comment | Flag

https://www.coursera.org/learn/linear-algebra-machine-learning/lecture/Pd6NY/operations-with-vectors

Course for Students | Coursera | Operations with vectors

coursera.org/learn/linear-algebra-machine-learning/lecture/Pd6NY/operations-with-vectors

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Summary

Operations with vectors



Save Note | Discuss | Download

English

Help Us Translate

Notes

All notes

Click the "Save Note" button when you want to capture a screen. You can also highlight and save lines from the transcript below. Add your own notes to anything you've captured.

Machine learning is the latest in a long line of attempts to distill human knowledge and reasoning into a form that is suitable for constructing machines and engineering automated systems. As machine learning becomes more ubiquitous and its software packages become easier to use, it is natural and desirable that the low-level technical details are abstracted away and hidden from the practitioner. However, this brings with it the danger that a practitioner becomes unaware of the design decisions and, hence, the limits of machine learning algorithms. The enthusiastic practitioner who is interested to learn more about the magic behind successful machine learning algorithms currently faces a daunting set of pre-requisite knowledge: Programming languages and data analysis tools Large-scale computation and the associated frameworks Mathematics and statistics and how machine learning builds on it At universities, introductory courses on machine learning tend to spend early parts of the course covering some of these pre-requisites. For historical reasons, courses in machine learning tend to be taught in the computer science department, where students are often trained in the first two areas of knowledge, but not so much in mathematics and statistics. Current machine learning textbooks primarily focus on machine learning algorithms and methodologies and assume that the reader is competent in mathematics and statistics. Therefore, these books only spend one or two chapters of background mathematics, either at the beginning of the book or as appendices. We have found many people who want to delve into the foundations of basic machine learning methods who struggle with the mathematical knowledge required to read a machine learning textbook. Having taught undergraduate and graduate courses at universities, we find that the gap between high school mathematics and the mathematics level required to read a standard machine learning textbook is too big for many people. This book brings the mathematical foundations of basic machine learning concepts to the fore and collects the information in a single place so that this skills gap is narrowed or even closed.

Linear algebra is a sub-field of mathematics concerned with vectors, matrices, and linear transforms. It is a key foundation to the field of machine learning, from notations used to describe the operation of algorithms to the implementation of algorithms in code. In this course on Linear Algebra we look at what linear algebra is and how it relates to vectors and matrices. Then we look through what vectors and matrices are and how to work with them, including the knotty problem of eigenvalues and eigenvectors, and how to use these to solve problems. Finally we look at how to use these to do fun things with datasets - like how to rotate images of faces and how to extract eigenvectors to look at how the Pagerank algorithm works.

Since we're aiming at data-driven applications, we'll be implementing some of these ideas in code, not just on pencil and paper. Towards the end of the course, you'll write code blocks and encounter Jupyter notebooks in Python, but don't worry, these will be quite short, focussed on the concepts, and will guide you through if you've not coded before. At the end of this course you will have an intuitive understanding of vectors and matrices that will help you bridge the gap into linear algebra problems, and how to apply these concepts to machine learning.

Module-1

- 1 a. With a neat diagram, explain the architecture of ARM cortex M3 microcontroller. (10 Marks)
- b. Explain the register organization of Cortex M3. (06 Marks)

OR

- 2 a. Explain the operation modes and privilege levels available in ARM cortex M3 with a neat transition diagram. (06 Marks)
- b. Mention the instructions used for accessing the special registers. Explain the same using suitable examples. (04 Marks)
- c. Explain the stack operations using Push and Pop instructions in ARM Cortex M3. (06 Marks)

July 2018

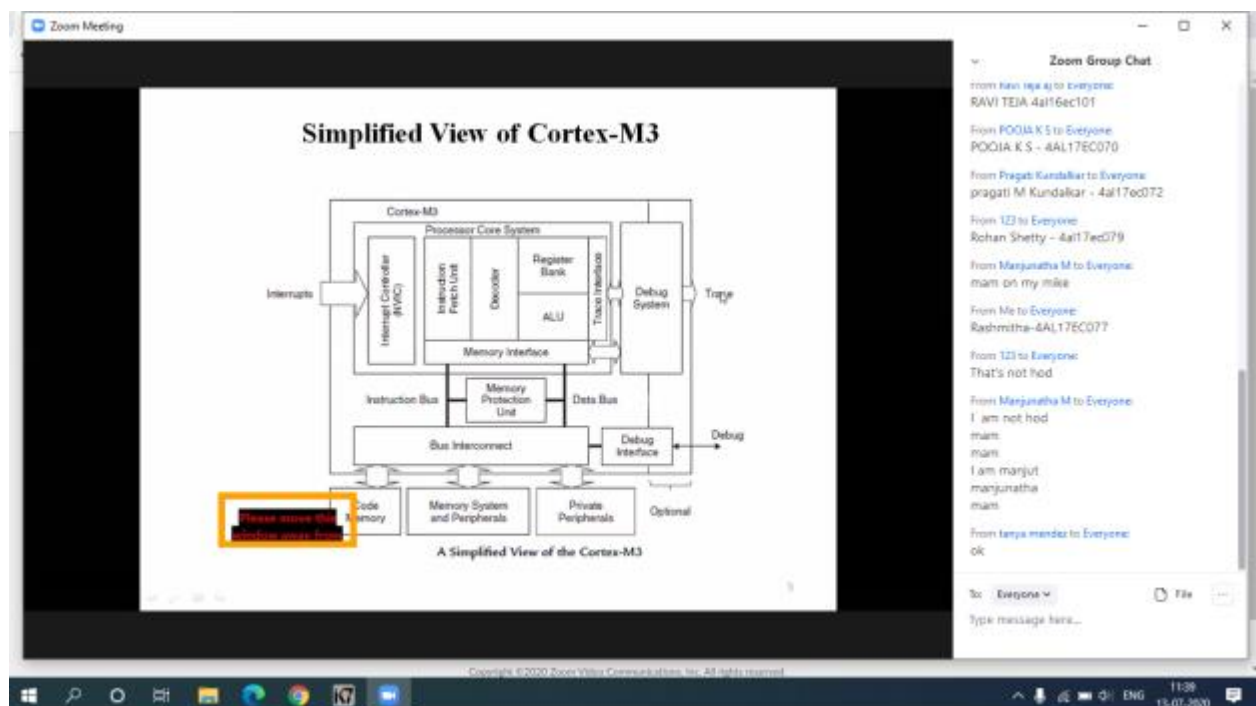
Module-1

- 1 a. Explain the architecture of ARM cortex – M3 processor with neat diagram. (08 Marks)
- b. With neat diagram, explain operation mode and privilege levels in cortex M3. (08 Marks)

OR

- 2 a. What is stack? Explain push and pop operation. With the help of a neat diagram. (07 Marks)
- b. Explain in detail special registers used in ARM cortex M3 processor. (09 Marks)

July 2019



Simplified view of cortex M3:

- Hardward architecture
- 32 bit architecture
- NVIC
- Memory protection unit
- R0-R12: general purpose register
- R13:stack pointer
- Program counter is used to hold the next instruction to be executed

- Special registers:
 1. program status registers
 2. interrupt mask registers
 3. control status register

Feature of NVIC:

1. Nested interrupt support
2. Vectored interrupt support
3. Dynamic priority changes support
4. Reduction of interrupt latency
5. Interrupt masking

Application :

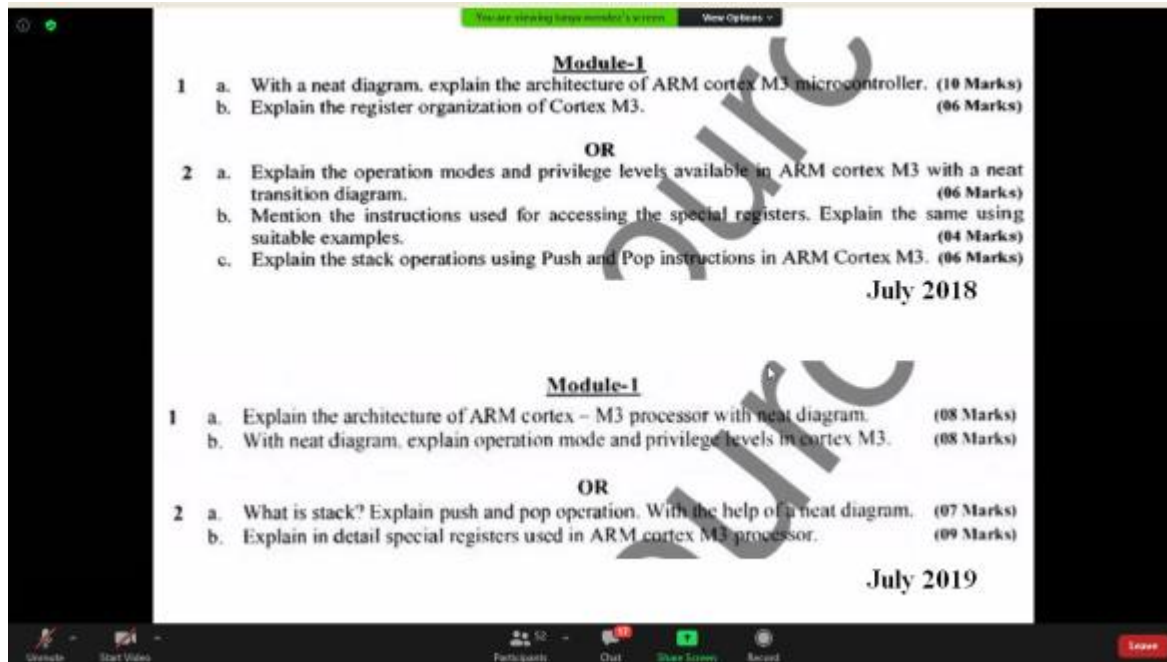
1. Consumer product
2. Automotive parts
3. Real time system
4. Data communication
5. Industrial control

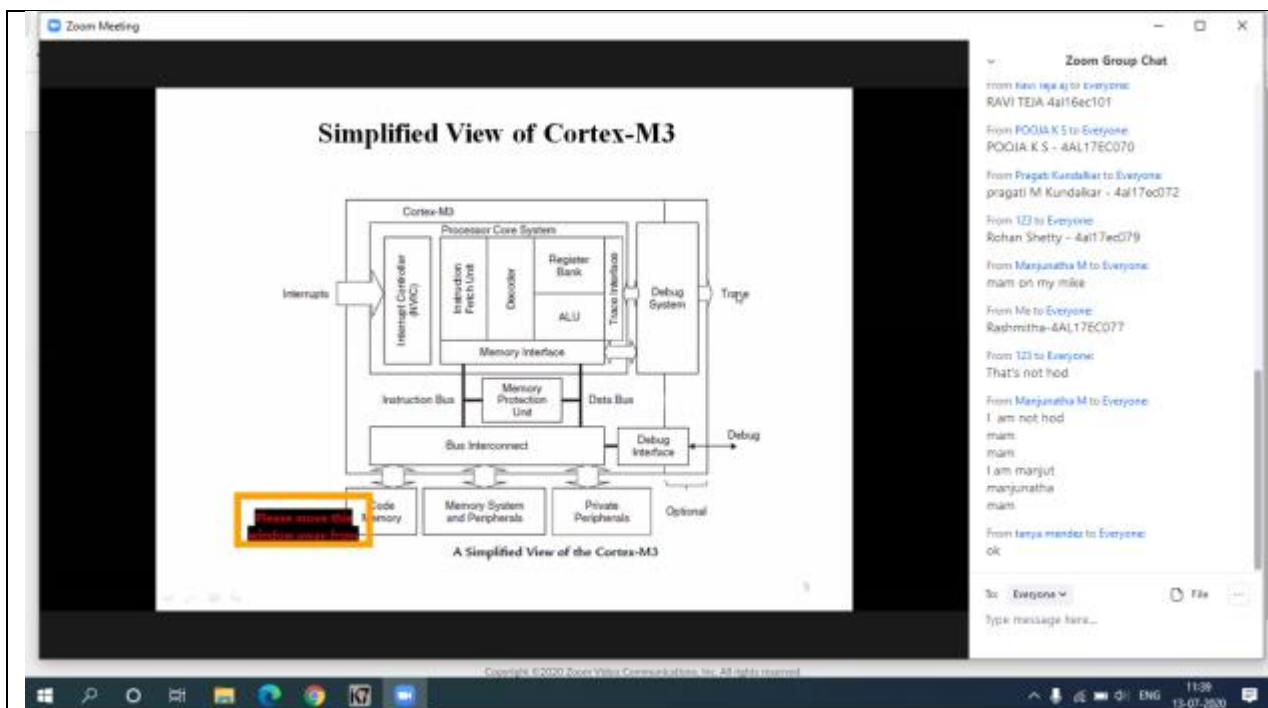
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AFTERNOON SESSION DETAILS

image of session





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Feature of NVIC:

6. Nested interrupt support
7. Vectored interrupt support
8. Dynamic priority changes support
9. Reduction of interrupt latency
10. Interrupt masking

Application :

6. Consumer product
7. Automotive parts
8. Real time system

9. Data communication

10. Industrial control

Webinar on “DRONE INDUSTRY INSIGHTS”:

DRONE APPLICATIONS

- DISASTER AND HAZMAT MONITORING.
- EMERGENCY DELIVERY (MEDICINE, EQUIPMENT SUPPLIES).
- EMERGENCY RESPONSE COORDINATION.
- DISASTER RELIEF & POST DISASTER ASSESSMENT.
- SEARCH AND RESCUE.
- CRIME SCENE INVESTIGATION.
- CRIMINAL SURVEILLANCE AND TRACKING.
- POLICE RESPONSE COORDINATION.
- SECURITY SURVEILLANCE.
- CROWD CONTROL.
- CHEMICAL AND BIOLOGICAL MONITORING IN AGRICULTURE. (IRRIGATION, PESTICIDES, TREATMENTS).
- FLOOD AND FIRE DETECTION MONITORING.
- INVENTORY AND RECORDS.
- PEST AND DISEASE DETECTION AND ITS TREATMENT.
- PRECISION AGRICULTURE OPERATIONS AND MANAGEMENT.
- ENVIRONMENTAL HAZARD ASSESSMENT.
- ENVIRONMENTAL IMPACT ASSESSMENT AND COMPLIANCE.

JMA
REDEFINING FLIGHT

Video call participants: rashmitha, Leo Peter Charles Maria, Vedanth, 4gm18ec052 Mi...

DRONE COMPANIES IN INDIA

Logos displayed: AUS, DYNAMIC TECHNOLOGIES LIMITED, Asteria / Aerospac, FLUTANOMERS, HELLA INFRATECH, INDROON AERO SYSTEMS, newSpace, Throttle Aerospace Systems Pvt Ltd, GarudaUAV, ideaForge Create. Inspire.

JMA
REDEFINING FLIGHT

Video call participants: rashmitha, Leo Peter Charles Maria, Srinivas T B, Thirubhala M

Zoom Meeting (Locked)

rashmitha Srinivas T B Mohan Babu dg

Deepak Raj

JMA
REDEFINING FLIGHT

Leo Peter Charles Managing Director - JMA

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Zoom Group Chat

u comment on claims which I raise on trending issues of DRONE PRATHAP

Can battery-operated drone cover over 400 km?

Can drones be used to distribute food during flood reliefs?

Does building 600 drones require huge amount of time?

Can we build drone using all e wastes?

From **santhosh kumar** to **Everyone**: could u please tell me more about our drone ori

From **Mallikarjun Muller** to **Everyone**: to complete drone course cost

From **Kannan Ajay Kumar** to **Everyone**: interested to join with you sir how can it?

From **M N Sachith** to **Everyone**: what are the exact job opportunities for mechanical engineers in drone field

From **Deepak Raj** to **Everyone**: https://bit.ly/AJET_Webinar4_Feedback feedback link

To: **Everyone**

Type message here...

Zoom Meeting (Locked)

rashmitha Srinivas T B Mohan Babu dg

Deepak Raj

JMA
REDEFINING FLIGHT

Leo Peter Charles Managing Director - JMA

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To: **Everyone**

Type message here...

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY, MOODBIDRI.
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGG.



Certificate

OF PARTICIPATION

THIS IS TO CERTIFY THAT

Sahana S R

from Alva's institute of engineering and technology has
participated in the webinar on "**DRONE INDUSTRY INSIGHTS**"
held on **13 JULY 2020** as part of the webinar series on "**Future
Ahead for Electronics Engineers**"

A handwritten signature in black ink, appearing to read "Leo Peter Charles".

Mr. Leo Peter Charles
Managing Director
Jane Aerospace Pvt Ltd

A handwritten signature in black ink, appearing to read "D.V. Manjunatha".

Dr. D V Manjunatha
Professor and Head
Dept. of ECE, AIET

A handwritten signature in black ink, appearing to read "Peter Fernandes".

Dr. Peter Fernandes
Principal
AIET

