

SC1004 Linear Algebra for Computing

College of Computing and Data Science

Nanyang Technological University



WELCOME

Contacts:

❖ First Part:

Deepu Rajan

Office : N4-2c-78

Phone : 6790 4933

Email: asdrajan@ntu.edu.sg



❖ Second Part:

Chng Eng Siong

Office : N4-2c-96

Phone : 6790 6200

Email: aseschng@ntu.edu.sg



Course Details

- ✓ Lecture: 13 weeks (approx. 39 hours)
- ✓ Tutorial: 12 weeks (12 hours)
- ✓ Assessment components:
 - 2 quizzes – 50% (25% each)
 - Quiz 1 on Friday 26th September
 - Quiz 2 on Friday 14th November
 - No make up quizzes
 - Absent with valid reason (e.g., MC) : Final exam marks will be taken as missed quiz marks and weighted accordingly
 - Absent without valid reason : 0 marks for the missed quiz
 - Final Examination – 50%
- ✓ Lecture notes and Tutorials are available on NTULearn

Main topics

0A. Introduction to Vectors

0B. Introduction to Matrices

1. Linear equations

2. Matrix algebra

3. Determinants

4. Vector spaces

5. Applications

6. Orthogonality

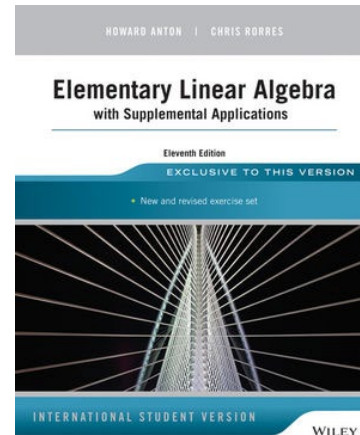
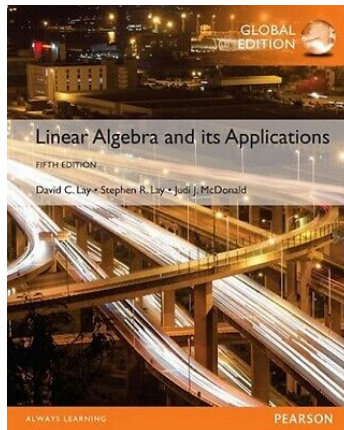
7. Least squares

8. Eigen values and Eigen vectors

8A. Complex Numbers

Textbooks

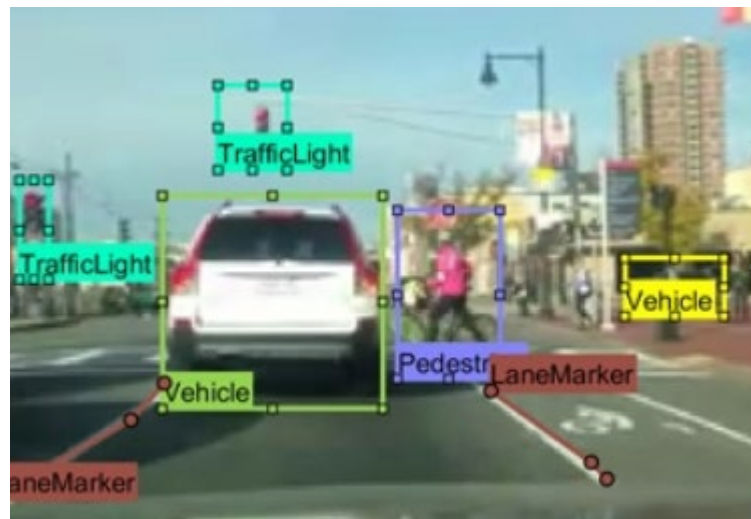
- Linear Algebra and its applications, David C. Lay, Steven R. Lay and Judi J. McDonald, Pearson, 2016.
- Elementary Linear Algebra: Application Version Editions, Howard Anton and Chris Rorres, 11th edition, Wiley.
- Linear Algebra, David Cherney, Tom Denton, Rohit Thomas and Andrew Waldron, (free textbook) at <https://www.math.ucdavis.edu/~linear/>





Graph Algorithms

Computer Graphics



Information Retrieval

SC4021

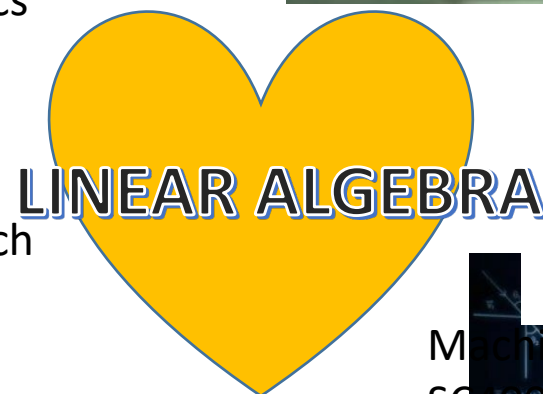


Based on The NIST Text Retrieval Conference (TREC) Logo



Web Search

Quantum Computation



Cryptography

SC4010

CRYPTED

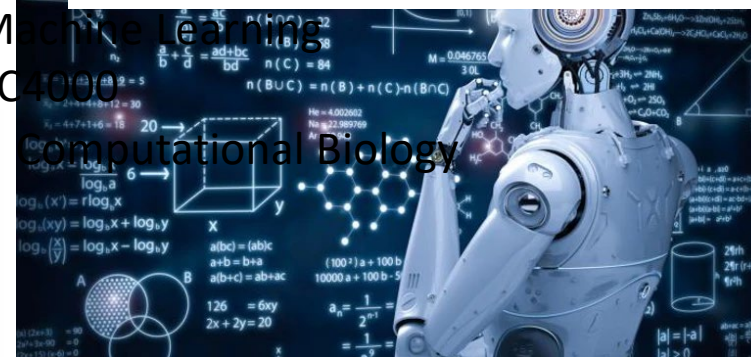
DECRYPTED



Cryptography Techniques

Machine Learning

SC4000



<http://graphics.stanford.edu/courses/cs348c-17-fall/>

<https://circuitdigest.com/tutorial/getting-started-with-image-processing-using-matlab>

<https://www.sourcetoday.com/supply-chain/article/21867474/whats-the-role-of-machine-learning-in-procurement>

<https://mostafadehghani.com/2017/03/29/sigir2017-tutorial-on-neural-networks-for-information-retrieval/>

<https://www.cloudaccess.net/fresh/blog/entry/2018/12/07/wait-what-google-isn-t-the-only-search-engine-on-the-web.html>

www.educha.com

Go to **wooclap.com** and use the code **SC1004**



Did you go through the videos before coming to today's lecture?



1

Yes, Yes, I did!!

67%

312

2

Oooops, forgot!

25%

117

3

Huh, have to go through videos, meh?

8%

36

