Assignment Project Exam Help

About COMP9318 (2018 s1)

https://eduassistpro.github.i

February 24, 201

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Lecturer-in-charge:

Prof. Wei Wang
School of Computer Science and Engineering

Research Interests:

- Knowledge graph / natural language processing
- High-dimensional data / Similarity query processing
- DB + AI

Course Info

- Homepage: http://www.cse.unsw.edu.au/~cs9318
- Communications:
  -
  - piazza.
- Lectures:
  - (800) – 2130(MON), Keith Burrows Theat
- Tutorials: several *online* tutorials +
- Consultations: by appointment only.

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Overview

- 1 written assignments + 1 programming project + lab
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Exam

- If you are ill on the day of the exam, **do not attend** the exam
  — I will **not** accept medical special consideration claims from

Final https://eduassistpro.github.i

-

$$final\_mark = 0.15 \cdot (ass1 + p$$

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- Also requires $exam \geq 40$.

This course has

- Broad coverage
- Heavy workload
-
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https://student.unsw.edu.au
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Specially, we do not accept personal pleas or excuse valid reasons that affect your performance, appl
Special Consideration:

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https://student.unsw.edu.au/special-consideration.
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Example excuse

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- If I fail this course, I will [...]. Please.

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Lecture Slides

- Contains many materials not found in the text/reference books.

Text Book

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- Jensen *et al*, *Multidimensional Dat Warehousing* (Accessible from a UNSW I

- Han *et al*, *Data Mining: Concepts and* edition, Kaufmann Publishers.

Reference Books

- Tan *et al*, *Introduction to Data Mining*, Addison-Wesley, 2005.

Resources II

- Witten *et al*, *Data Mining: Practical Machine Learning Tools and Techniques with Java Implementations*, 1st/2nd edition, Morgan Kaufmann.
- Charu Aggarwal *Data Mining: The Textbook* Springer 2015.

Software

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-
-
- Python libs such as numpy, pand scikit-learn, ...

Reading Materials

- Papers from machine learning/data mining conferences/journals, white papers, surveys, etc.
- All available from the course Web page.

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Week	Contents	Assignments
1	Course overview + Introduction	lab
2	Data warehousing and OLAP	
3	Maths review + Data Prepr	lab
4	Data Preprocessing + Cla	
5	Classification	ass1
BREAK		
6	Classification	
7	Classification	lab, proj1
8	Classification	
9	Clustering	
10	Clustering + Association Rule Mining	lab
11	Association Rule Mining	lab
12	Advanced topic + review	

Objectives:

- Cover practically useful data mining/machine learning algorithms and concepts.
- Foster **deeper** understanding of maths, models, and

Requirements:

- You need to have a solid background in Math Algebra, Calculus, Probability & Statistics (mainly python).
- Understand (not memorize) concepts/
  - Ask *why*.
  - Describe it in your own language to a layman.

Feedback welcome (throughout the course).

Example

John got a positive result for the α test, and the probability that patients with the deadly β disease having a positive α test result is 99%

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Example

John got a positive result for the α test, and the probability that patients with the deadly β disease having a positive α test result is 99%

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$$P(\beta \mid \alpha) = \frac{}{P(\alpha)}$$

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Example

John got a positive result for the α test, and the probability that patients with the deadly β disease having a positive α test result is 99%

$$P(\beta \mid \alpha) = \frac{}{P(\alpha)}$$

$$P(\beta \mid \alpha) = \frac{P(\alpha \mid \beta)P(\beta)}{P(\alpha \mid \beta)P(\beta) + P(\alpha \mid \neg\beta)P(\neg\beta)}$$

Exercise

Exercise: plot the function $P(\beta \mid \alpha)$ with respect to $P(\alpha \mid \neg\beta)$ given $P(\beta) = \frac{8}{100,000}$.

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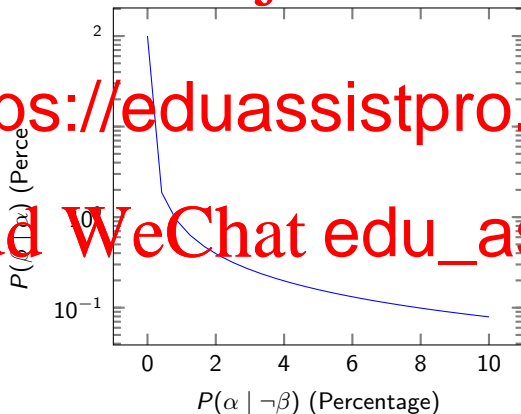
For those new to the computing environment at CSE, UNSW

- Use Linux/command line.
  - Project marked on linux servers
  - You need to be able to upload, run, and test your program

- Classrun. Check your submission, marks, etc. Read
  https://wiki.cse.unsw.edu
  - Common errors:
    - File corrupt (during scp?), not in t
    - Submission not accepted by the syst
      large? . . .).

- Lab submission: our home-made Web submission system.

Other specialised courses in the Database or Data Science stream:

- COMP9319: Advanced algorithms on compression, text/XML databases, etc.

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Other machine learning courses:

- COMP9417: Machine Learning and Da
- COMP9444: Neural Networks and Deep
- COMP9418: Advanced Machine Learning

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Talk to me about PhD/Master/Honour/Research Project

oppo

mac

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- Special research project (12UoC or 18Uo
  — needs to contact me by the end of this semest

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Things to ponder:

- The long-term impact of the latest development in AI/DS/Hardware.

Requ...

- Plan ahead for the course.
- Learning happens outside your comforta...
- Review teaching materials after the lectur...
- Use the Jupyter notebooks.

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Source:

`http://combiboilersleeds.com/images/comfort-zone/comfort-zone-0.jpg`