Lecture 0: Introduction

Yi, Yung (이융)

EE210: Probability and Introductory Random Processes
KAIST EE

August 23, 2022

Outline

- Course logistics
- Why this course?

Instructor

- Yi, Yung (이융)
- Office: N1, 810
- Homepage: `https://yung-web.github.io/home/`
- E-mail: `yiyung@kaist.edu`
- Computer Division
- In KAIST EE since 2008

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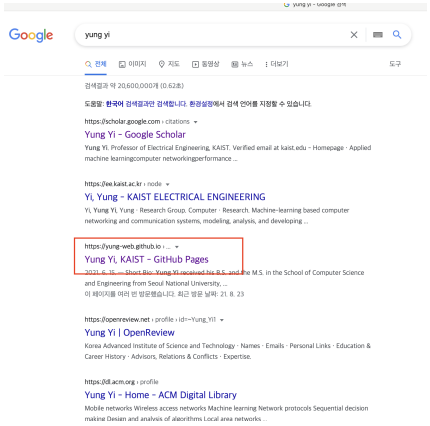
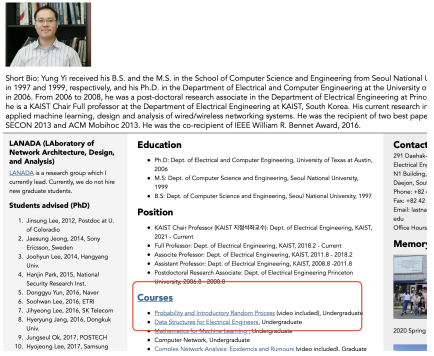
- Method 2: (a) Type Yung Yi in the google, (b) visit his GitHub homepage, (c) find the links on Course.





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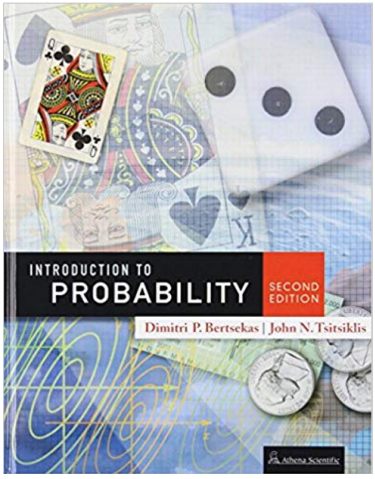
- Score upload and all the grade-related things

Textbook

- Introduction to Probability (2nd edition)
  - MIT course textbook
  - Dimitri P. Bertsekas and John N. Tsitsiklis
- You can order it from Yes24, Aladin, Kyobo
  - Yes24: `http://www.yes24.com/Product/Goods/3995311`
  - Aladin: `https://www.aladin.co.kr/shop/wproduct.aspx?ItemId=12945615`
  - Kyobo: `http://www.kyobobook.co.kr/product/detailViewEng.laf?ejkGb=ENG&mallGb=ENG&barcode=9781886529380&orderClick=LAG&Kc=`



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- Some of my lecture slides are based on theirs, but my slides are largely modified/reorganized/edited in many places for our purpose.

Course Contents (Guided Schedule for Your Study)

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1. Probabilistic model (0.5 week)
2. Conditioning and Independence (0.5 week)
3. Random Variable, Part I (Discrete Random Variable) (1.5 week)
4. Random Variable, Part II (Continuous Random Variable) (1.5 week)
5. Random Variable, Part III (Advanced Topic on Random Variable) (1.5 week)
6. Limit of Scaled Sum of Random Variables: Central Limit Theorem and Weak Law of Large Numbers (1.5 week)
7. Random Process: Bernoulli and Poisson Processes (2 week)
8. Random Process: Markov Chain (2 week)
9. Introduction to Statistical Inference (2 week)

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- 9 Homeworks for each of 9 chapters.

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- Try to read ALL of the textbook contents covered in the class.
- OK not to be present in the classroom? Yes
- OK that my homework solutions is sams as those in the solutions book? Yes
- Can I ask for a personal meeting to ask quetions or get other general advices? Yes. Send me an email.

Questions?

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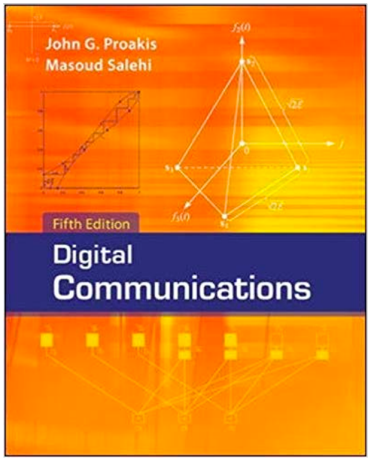
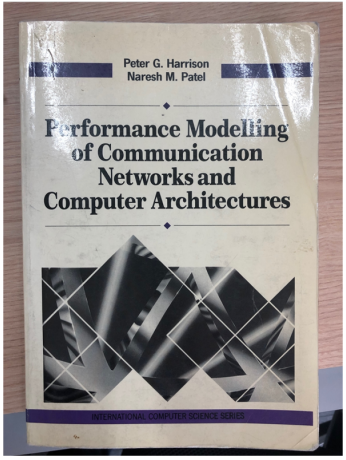
- From an engineering point of view,
  - System input
  - Algorithms in systems
  - Analysis of systems

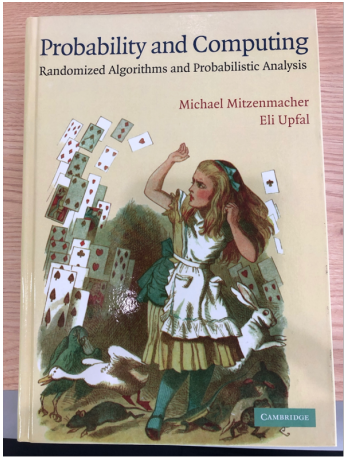
Textbook: Digital Communication



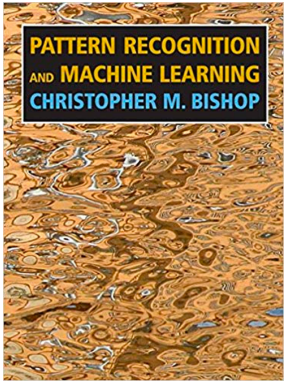
Textbook: Computer Networking



Textbook: Algorithm and Computing



Textbook: Machine Learning



These days, every area in CS and EE is directly or indirectly related to machine learning!

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- We will take this exciting journey from the next lecture!

Questions?