Welcome to Introduction to Artificial Intelligence!

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Agenda

This slide will cover:

- Introduction to EBU4203
  - Aims
  - Learning outcomes
  - Course organisation
  - Resources

Aims

- To provide a comprehensive overview of the definition, scope, and branches of AI, along with its historical background and ethical considerations.
- To introduce fundamental AI techniques, e.g., knowledge representation and reasoning, Bayesian learning, deep learning and neural networks, reinforcement learning, natural language processing, and computer vision.
- To familiarize students with practical AI applications, including hands-on experience with AI tools and frameworks, data acquisition and preprocessing, model deployment, and implementation of AI techniques through projects.
- To explore the limitations of current AI approaches, discuss ethical considerations, and delve into the future directions and potential advancements in the field of AI.

Learning Outcomes

- To understand the foundational knowledge and techniques of AI.
- To describe the key AI techniques for acquiring and representing human knowledge.
- To demonstrate the ability to implement fundamental AI techniques.
- To understand the principles of emerging AI applications, such as Computer Vision, Natural Language Processing, and Wireless Communications.

Lectures

- ***TB1:*** Introduction to AI, uncertainty in decision making, machine learning basics
- ***TB2:*** Deep learning and reinforcement learning
- ***TB3:*** Practical AI Applications and Computer Vision
- ***TB4:*** Natural Language Processing (NLP) and future trends in AI

Course structure

- Lectures

Teaching Blocks 1 & 2	Teaching Blocks 3 & 4
• **Dr. Atm Alam (MO)**: EIE & IST • **Dr Xidong Mu**: Telecom G1 & G2	• **Dr Riasat Islam**: EIE & IST • **Dr Xidong Mu**: Telecom G1 & G2

- Active learning & Reflective Learning
  - Regular Mentimeter activities and self-revision quizzes
- Tutorial & Office Hour
  - Refer to your timetable
- Labs
  - Refer to your timetable
- Assessments

Delivery model

- All lecture will be face-to-face
- Interactive discussion/Tutorials/Office Hour
- Support on Student Forum (QM+)/Mentimeter/so on
- Supplementary materials:
  - E.g., Short video lectures of important/complex topic.

Assessment

- 1 x Class Test 3%
  - After teaching block 2
- 2 x Self-revision Online Quizzes 3%
  - Open for a week
- Laboratory 14%
  - Lab reports
- Final exam 80%
  - closed-book written exam
  - Past papers will be put on QMPlus
  - ***Note:*** A minimum total mark of 40% is required to pass this module.
- Coursework:
  - ***Note:*** There is a coursework hurdle of 30% (A minimum total coursework mark of 30% is required to pass this module)

Information

- Course website:
  - Login to QMPlus
  - Course Area: EBU4203 (Introduction to AI)
  - Check it regularly, as it is possible there could be additional information e.g. messages, extra practice exercises, tutorials, etc.
- Email:
  - You are expected to check your QM email every week at least!

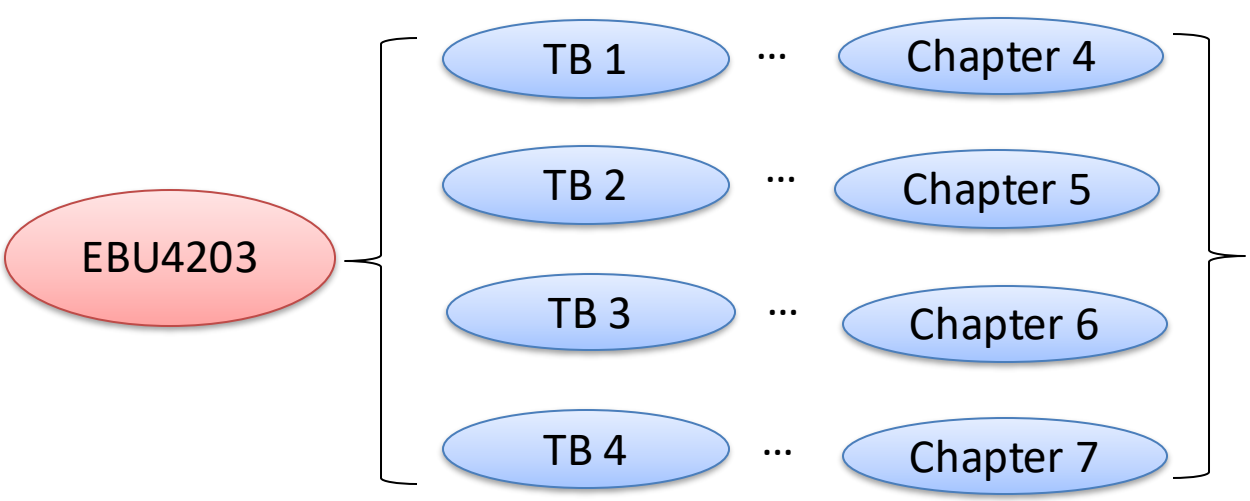
Communication and advice

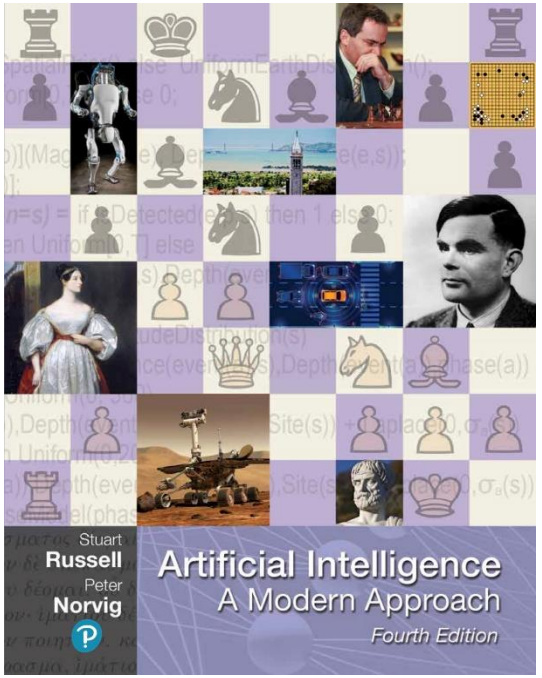
- EBU4203 Student Forum is the preferred medium

- Problems with coursework, labs, etc.
  1. Contact the Teaching Assistant (TA) during lab hours
  2. Use EBU4203 Student Forum

Recommended Text book and references

- There are plenty of books available on this topic.
- Majority of the content is available in 'Russell and Norvig' book [1]





- A more targeted list of references can be found in each week's teaching slides

[1] Russell, S., & Norvig, P. (2021). Artificial Intelligence: a modern approach, 4th US ed. University of California, Berkeley.

Few tips

- Attend every lecture, tutorial, lab and assessment sessions.
- Revise your lecture materials after every class.
- Make use of available materials, and read books and online materials.
- Be interactive during the class and tutorial sessions.
- Ask your lecturers/TAs and discuss with your classmates.

Best of luck!