Fakultas Informatika
School of Computing
Telkom University

CII-2M3 Pengantar Kecerdasan Buatan
(Introduction to Artificial Intelligence)

MODULE 0

Lecturer Information

- **Name**: Hendy Irawan, S.T., M.T., Ph.D.(c)
- **HP/WA**: +6285624614466
- **Email**: hendy@hendyirawan.com
- **Url**: ...
- **Schedule & Meeting Room**
  - IF-42-12: Tuesday 13.30-16.00 https://meet.google.com/nmq-cdyv-rqf
  - IF-42-INT: Wednesday 10.30-13.00 https://meet.google.com/des-xgoa-jke
  - **webcam on is mandatory from start to completion of meeting**
- **Group Chat**
  - Will be informed via Class Head & LMS Announcement by Sep 9 2020 evening

Program Learning Outcome (PLO)

PLO 5:

Able to implement computing methods in development of intelligent systems and machines.

Course Learning Program (CLO)

CLO 1: Student is able to describe, analyze, and design Searching, Reasoning, and Learning methods to solve problems

CLO 2: Student is able to implement Searching, Reasoning, and Learning techniques to solve given problems

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SILABUS

1. AI Definition
2. State space representation
3. Heuristic (Informed) Search
4. Metaheuristic Search
5. Propositional Logic
6. First-Order Logic
7. Fuzzy Rule-Based Systems
8. Linear regression
9. Decision Tree Learning
10. Evolutionary Decision Tree Learning
11. k-nearest neighbor (kNN)
12. Bayesian Learning
13. Ensemble Learning
14. Model Selection and Validation

REFERENCES

[1] Suyanto, "Artificial Intelligence: Searching-Reasoning-Planning-Learning" Revisi Ketiga, Penerbit Informatika, Bandung, 2020.

[2] Russel, Stuart and Norvig, Peter, "Artificial Intelligence: A Modern Approach" Edisi 4, Prentice Hall International, Inc., 2020.

[3] Suyanto, "Machine Learning: Tingkat Dasar dan Lanjut", Penerbit Informatika, Bandung, 2018

[4] Suyanto, "Swarm Intelligence: Komputasi Modern untuk Optimasi dan Big Data Mining", Penerbit Informatika, Bandung, 2019

[5] Suyanto, "Evolutionary Computation: Komputasi Berbasis `Evolusi' dan `Genetika'", Penerbit Informatika, Bandung, 2008

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GRADING

Grading Component	Percentage
Quiz 1: Searching	10%
Quiz 2: Reasoning	10%
Quiz 3: Learning (Regression & DTL)	10%
Quiz 4: Learning (kNN & NB)	10%
Assignment 1: Searching (Blind/Heuristic/Metaheuristic)	15%
Assignment 2: Reasoning (Fuzzy Logic)	15%
Assignment 3: Learning (Regression/DTL/kNN/NB/EL)	30%
Total	**100%**

RULES

- Online meeting is done via **Google Meet**
- Student attendance is based on LMS ***activity completion*** = have read all of the materials in each Pokok Bahasan (PB) / Module
- Any form of cheating or plagiarism in submitting Quizzes and/or Assignments may result in E grade and/or punishment according to Disciplinary Committee (Komdis)

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CII-2M3 Pengantar Kecerdasan Buatan

PERTEMUAN 0

Informasi Dosen Pengampu MK

- **Nama**: Hendy Irawan, S.T., M.T., Ph.D.(c)
- **HP/WA**: 085624614466
- **Email**: hendy@hendyirawan.com
- **Url**: ...
- **Jadwal dan Ruang Kuliah**
  - IF-42-12: Selasa 13.30-16.00 https://meet.google.com/nmq-cdyv-rqf
  - IF-42-INT: Rabu 10.30-13.00 https://meet.google.com/des-xgoa-jke
- **Grup Chat Kelas**
  - Akan saya infokan via Ketua Kelas & Announcement LMS

Program Learning Outcome (PLO)

PLO 5:

Mampu menerapkan metode computing dalam pengembangan sistem dan mesin berintelegensia.

Course Learning Program (CLO)

CLO 1: Mahasiswa mampu menjelaskan, menganalisis, dan mendesain teknik Searching, Reasoning, dan Learning untuk menyelesaikan masalah

CLO 2: Mahasiswa mampu mengimplementasikan teknik Searching, Reasoning, dan Learning untuk menyelesaikan permasalahan yang diberikan

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SILABUS

1. Definisi AI
2. Representasi ruang keadaan
3. Heuristic (Informed) Search
4. Metaheuristic Search
5. Propositional Logic
6. First-Order Logic
7. Fuzzy Rule-Based Systems
8. Linear regression
9. Decision Tree Learning
10. Evolutionary Decision Tree Learning
11. k-nearest neighbor (kNN)
12. Bayesian Learning
13. Ensemble Learning
14. Seleksi dan Validasi Model

REFERENSI

[1] Suyanto, "Artificial Intelligence: Searching-Reasoning-Planning-Learning" Revisi Ketiga, Penerbit Informatika, Bandung, 2020.

[2] Russel, Stuart and Norvig, Peter, "Artificial Intelligence: A Modern Approach" Edisi 4, Prentice Hall International, Inc., 2020.

[3] Suyanto, "Machine Learning: Tingkat Dasar dan Lanjut", Penerbit Informatika, Bandung, 2018

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[5] Suyanto, "Evolutionary Computation: Komputasi Berbasis `Evolusi' dan `Genetika'", Penerbit Informatika, Bandung, 2008

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RUBRIKASI NILAI

Komponen Penilaian	Persentase
Kuis 1: Searching	10%
Kuis 2: Reasoning	10%
Kuis 3: Learning (Regression & DTL)	10%
Kuis 4: Learning (kNN & NB)	10%
Tugas 1: Searching (Blind/Heuristic/Metaheuristic)	15%
Tugas 2: Reasoning (Fuzzy Logic)	15%
Tugas 3: Learning (Regression/DTL/kNN/NB/EL)	30%
Total	**100%**

ATURAN PEMBELAJARAN

- Pertemuan daring dilakukan melalui **Google Meet**
- Kehadiran mahasiswa dihitung berdasarkan ***activity completion***, yaitu telah membaca materi setiap Pokok Bahasan (PB)
- Segala bentuk kecurangan atau plagiasi dalam mengerjakan Kuis dan/atau Tugas bisa menyebabkan nilai menjadi E dan/atau mendapatkan hukuman sesuai sidang Komisi Disiplin (Komdis)