VNU-HUS MAT3508: Introduction to AI

Preliminaries

Hoàng Anh Đức

Bộ môn Tin học, Khoa Toán-Cơ-Tin học
Đại học KHTN, ĐHQG Hà Nội
hoanganhduc@hus.edu.vn

Contents

About MAT3508

- **Course ID:** MAT3508
- **Class IDs:** MAT3508 1, 2, 3
  - **Theory**
    - Time and Location: Wednesday, 7:00 – 08:45, Room 204-T4
    - Lecturer: Hoàng Anh Đức (VNU University of Science, `hoanganhduc@hus.edu.vn`, GitHub Username: `hoanganhduc`)
  - **Exercises, Lab**
    - Time and Location: Monday, 07:00 – 12:30, Room 502-T5
    - Lecturer: Hoàng Anh Đức (VNU University of Science, `hoanganhduc@hus.edu.vn`, GitHub Username: `hoanganhduc`)
  - For **Exercises, Lab** sessions, students are assigned in three groups (each of which has around 20-25 students) with different time slots:
    - **MAT3508 1:** 07:00 – 08:45
    - **MAT3508 2:** 08:50 – 10:40
    - **MAT3508 3:** 10:45 – 12:30
- **Number of Credits:** 3

About MAT3508 (cont.)

- **Course Website:** https://hoanganhduc.github.io/teaching/VNU-HUS/2025/winter/MAT3508/
  - Course information, syllabus, and reference materials
  - Lecture slides
  - Announcements related to the course

About MAT3508 (cont.)

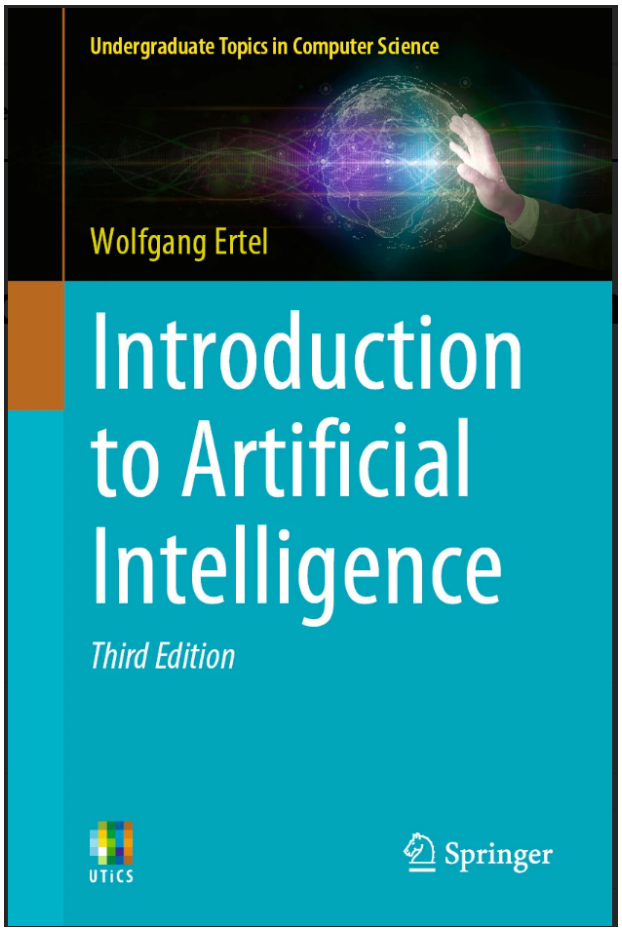
- **Canvas:** 9GD9A7
  - Students must set their display name to their **full name in Vietnamese**, for example “Nguyễn Văn Tuấn”. How to change the display name: https://community.canvaslms.com/t5/Troubleshooting/Updating-my-displayed-name-in-Canvas/ta-p/853
  - Students must set the time zone in Canvas to **Hanoi** (GMT+7). How to change the time zone: https://community.canvaslms.com/t5/Canvas-Basics-Guide/How-do-I-set-a-time-zone-in-my-user-account/ta-p/615318.

About MAT3508 (cont.)

- Students enrolled in MAT3508 must complete the form below to receive an invitation to join the Canvas course.
  https://forms.office.com/r/X7m1599g57

About MAT3508 (cont.)

- Main Textbook
  - Wolfgang Ertel (2025). *Introduction to Artificial Intelligence*. 3rd. Springer. DOI: 10.1007/978-3-658-43102-0



About MAT3508 (cont.)

- **Evaluation:**
  - **Regular (Bài tập, thường xuyên):** 10% (Exercises, Lab, Attendance)
  - **Midterm (Giữa kỳ):** 20% (Mini-Project Presentation)
  - **Final (Cuối kỳ):** 70% (Mini Project Report)
- **Contents (Expected):**
  - Preliminaries (Introduction to Course Logistics, Mini-Project Announcements)
  - Introduction (Chapter 1)
  - Propositional Logic (Chapter 2)
  - First-Order Predicate Logic (Chapter 3)
  - Limitations of Logic (Chapter 4)
  - Logic Programming with PROLOG (Chapter 5)
  - Search, Games and Problem Solving (Chapter 6)
  - Reasoning with Uncertainty (Chapter 7)
  - Final Exam (Evaluation of Students' Mini-Project Reports)

Notice

- **Term 1, Academic Year 2025-2026:** 15 weeks, starting from September 3, 2025
  - *If nothing changes, the classes on 27/10 and 29/10 are canceled due to the lecturer being on a business trip*
- **Tentative Plan:**
  - **Week 0:** Preliminaries (Introduction to Course Logistics, Mini-Project Announcements)
  - **Week 1–7:** Chapters 1–7 of the main textbook
  - **Week 8–9:** In-class time used for students to work on their mini-projects
  - **Week 10–14:** Students (in groups) submit reports and present their mini-projects
- **(Optional) Skills:** (i.e., if you already know the basic of these tools, it will be easier for you to follow the course)
  - LaTeX (for writing reports, preparing slides)
  - GitHub (for version control and collaboration, for mini-project submission)
  - PROLOG (for logic programming)

Notice (cont.)

- **On Canvas LMS Account:**
  - *Each student must use **one single Canvas account** to participate in the course*
    - Students **register their information via the online form** to be invited to the Canvas course
    - In the Canvas account profile, the “Name” field must show the **full Vietnamese name** (for example, Nguyễn Văn Tuấn)
    - Students **not enrolled in the course** should not participate on Canvas
  - *You must **notify** the lecturer about an absence **before the class starts***
    - Fill the form `https://forms.office.com/r/RY6LnDk2wv`
    - Students who **miss class but do not follow the required procedure** will probably have **regular points deducted**
    - **Students who missed more than 3 theory/exercise sessions are not allowed to take the final exam, except certain special cases (e.g., medical reasons, agreement with the lecturer, etc.)**

About Exercises and Lab

- First 8 weeks: Weekly exercises are mainly taken from the textbook
- *The time periods for MAT3508 1, 2, 3 are fixed*. For example, if you registered for MAT3508 1, you cannot attend sessions for MAT3508 2 or MAT3508 3
  - The room has limited number of seats (around 20-25)
- Supplementary Github Assignment: https://classroom.github.com/a/c6-wSaYy/
- The same information is available on the repository https://github.com/hoanganhduc/VNU-HUS-IntroAI-Exercises/

GitHub Classroom

GitHub Repository

About Extra Online Learning Activities

- We recommend you to register and learn the following online course: *Khoá học Ứng dụng AI cho Thanh niên Việt Nam* (https://phocap.ai/vi/courses/khoa-hoc-ung-dung-ai-cho-thanh-nien-viet-nam-66924)
- The results of learning this online course has no effect on your scores in MAT3508

Note: Students enrolled to MAT1206E (Introduction to AI, 4 credits) are REQUIRED to take this online course.

About In-class Discussion

- **Preparation:** Students are expected to review the assigned readings and recordings before class.
  - Weekly preparation materials will be announced at the end of the previous class and on the course website.
- **In-class (Weeks 1–7):** Discussion + review main points in the preparing materials

About Using ChatGPT and Similar Models

- **You are allowed to use ChatGPT and similar models** (e.g., Gemini, Grok, Claude, etc.) to support your learning and complete assignments.
  - GitHub provides "GitHub for Education" for students (free of charge), which include several premium AI models for coding assistance using GitHub Copilot. (There is a limit on number of premium requests per month.) Register via https://github.com/education
- **However, you must clearly indicate in your code/report which parts were generated by these models.**
  - For example, if you used ChatGPT to generate code snippets, explanations, or any other content, you must specify this in your report.
  - You can include as comments the prompts you used and the responses you received from the models.

About Using ChatGPT and Similar Models (cont.)

- **You are responsible for verifying the accuracy and reliability of any content generated by these models.**
  - This includes checking for factual accuracy, coherence, and relevance to your specific context.
  - You should also be aware of the limitations and potential biases of these models.
- **For in-class discussion**, you are encouraged to use these models to help formulate your thoughts and arguments, but **we would love to hear your own insights and perspectives**.

About Mini-Projects

- **Group Size:** 1 – 5 students per group. After forming groups, each group must self sign-up on Canvas. (See https://community.canvaslms.com/t5/Student-Guide/How-do-I-join-a-group-as-a-student/ta-p/468.)
- **Template Repository:** https://github.com/hoanganhduc/VNU-HUS-IntroAI-MiniProject (Read the markdown files carefully and **follow the instructions**)
  - **Rubrics.md** (Indicating how we will evaluate the mini-projects)
  - **Proposed Topic Template.md** (Template for proposing project topics, which you will have to submit as soon as possible within the first two weeks of the course)
  - **Mini-Project Ideas.md** (A list of suggested, beginner-friendly AI project ideas)

About Mini-Projects (cont.)

- **GitHub Repository:** All mini-projects must have its own Github Repository for storing all relevant materials (report, slides, code, data, etc.). If the size exceeds GitHub's limit, consider using GitHub Large File Storage (LFS) or uploading to other platforms like Google Drive or Dropbox and put the link to the documentation. **In your final report, you must include the link to the repository of your project.**
  - Use the template repository to get started.
  - Your submitted GitHub repository can be private, but lecturers must have access to it.
    - To grant access, add the lecturers' GitHub usernames (`hoanganhduc`) as a collaborator with read permissions.
    - This ensures privacy for your work while allowing evaluation; failure to provide access may result in penalties or inability to grade the submission.
  - All code must be well-documented.
  - The titles and the GitHub repository URLs of mini-projects will be listed on the course website.

About Mini-Projects (cont.)

- **Topics:**
  - There are no fixed topics. A list of suggested, beginner-friendly AI project ideas is available on Canvas as well as on the template repository.
  - You may choose a topic from that list or propose your own. You have at most two weeks from the project announcement to decide.
  - After selecting a topic, one representative from the group must:
    1. complete the markdown template “Proposed Topic Template.md” (available at the template repository `https://github.com/hoanganhduc/VNU-HUS-IntroAI-MiniProject`),
    2. create a new discussion thread on Canvas titled with your project’s title,
    3. paste the completed template into the discussion and publish the post.
  - You cannot choose a topic which has already been posted by another group.

About Mini-Projects (cont.)

- **Report:** All reports must be typed and clearly formatted (in either English or Vietnamese), exported as a PDF.
  - A LaTeX template is provided in the template repository.
  - Follow the submission instructions in the template repository.
  - If you use any external resources (e.g., datasets, libraries), make sure to properly cite them in your report.
  - Remember to state the contributions of each member in the report.
- **Presentation:**
  - Each group will have about 30–45 minutes to present their project.
  - Presentations are followed by a 10-minute Q&A session.
  - The total time for a group's presentation should not exceed 60 minutes.
  - **All students in the group must participate in the presentation.** (That is, each student should be in charge of some parts of the presentation.)

About Mini-Projects (cont.)

- **Final Remarks:**
  - A mini-project is to give you an idea on how to apply AI models and algorithms in practice.
  - We do not require you to create new ideas or solutions.
    - You can select an existing idea, a project that has already been done, a paper that has already been published, etc., and try to understand it and explain to us.
    - You can combine multiple existing ideas to solve a problem which you proposed.
  - Of course, nothing prevents you from creating a new idea or solution based on your understanding of existing ideas and projects.

About Academic Integrity

- **All submitted works must be your own and reflect each group's contributions.**
  - Group size: 1–5 members. Every submission must include a clear list of group members and a short statement of each member's contributions.
  - Use a single GitHub repository per group (or a single shared submission). Include a README that documents roles, contribution timeline, and the repository link in the report. (See the template repository.) Ensure the lecturers have access (add as collaborators or make the repo accessible).
  - You may discuss with classmates, use online resources, or use AI tools (e.g., ChatGPT, Grok, Claude, Copilot) to aid understanding. Any content (text, code, figures, data, or generated text) not authored by the group must be explicitly cited. If AI tools are used, include the prompts and model outputs as an appendix or comment block.

About Academic Integrity (cont.)

- Copying another group's work, published solutions, or online code without proper attribution is plagiarism and will be penalized.
- If contributions are unequal or disputed, individual grades may be adjusted based on documented contributions and instructor assessment.

- **Responsibility and consequences:**
  - You are responsible for understanding and following the university's academic integrity policies. Violations can lead to failing the assignment or course and other disciplinary actions.
  - All group members are accountable for the final submission. Misconduct discovered in a group's work will trigger an investigation and may result in penalties for some or all members.