Course Orientation

Lecture Orientation

❖ Prerequisites

- AI Mathematics
- Probability and Statistics
- Discrete Mathematics

❖ Class Information

- Time : Wed. 8~9 period (16:00~17:50), Thur. 7 period (15:00~15:50)
  Wed. 7 period (15:00~15:50), Thur. 1~2 period (09:00~10:50)
- Professor: Ji-Hoon Jeong
- TA1(AI Major): Hyeong-Yeong Park [5119004-01]
- TA2(SW Major): Se-Na Jang [5119007-01]

❖ Textbook : Lecture note

❖ Web : lms.cbnu.ac.kr

Lecture Orientation

- Understand the concepts in AI techniques
- **Understand the fundamental techniques and recent development in AI**
- Acquire some practical techniques for AI applications
- Develop programming skills with AI components

Lecture Orientation

Week	Contents	LAB Assignment
1-week	00. Course Orientation	
2-week	01. Introduction to Artificial Intelligence	Introduction to Pytorch
3-week	02. Techniques for AI + Audio signals	Audio signals
4-week	03. Search and Optimization in Hyperscale Data	
5-week	04. Knowledge Representation with AI Applications	
6-week	05. Machine Learning + computer vision	Computer vision (1): Classification
7-week	06. ML Algorithms (1)	
8-week	Mid-term Period	
9-week	07. ML Algorithms (2) + Generation	Computer vision (2): Generation
10-week	08. Deep Learning	
11-week	09. Neural Network + NLP	Nature language processing
12-week	10. DL Algorithms (1)	
13-week	11. DL Algorithms (2)	
14-week	12. Generative AI	
15-week	13. Intelligent Robotics	
16-week	Final Exam	

Lecture Orientation

Voice

Voice recognition
Voice-to-text
Voice authentication

Image

Image recognition
Image classification
Object detection

Text

Text-to-voice
Sentiment analysis
Question answering

Face

Facial recognition
Face authentication
Anti-spoofing

Bio-signal

Signal processing
Neurofeedback
Encode & Decode

Automation

Process optimization
Self-adaptive learning
Reinforcement learning

Smart assistant

Self-driving cars

Conversational bots

Security systems

Digital healthcare

Intelligent robots

Lecture Orientation

- Theory class
  - The course will be conducted on a chapter-by-chapter basis for the Artificial Intelligence
  - To informed about important announcements, please make sure to check the notices before each class, whether it is a theory or a hands-on session

- Hands-on practice with PyTorch for AI Applications
  - LAB practice code results must be committed to each personal GitHub public repository
    - Further instructions regarding the GitHub public repository will be provided later

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Lecture Orientation

- **How to evaluation?**
  - **Attendance - 5%**
  - **LAB assignment - 25%**
  - **Exam - 70%**
    - Mid-term exam : 35%
    - Final exam : 35%

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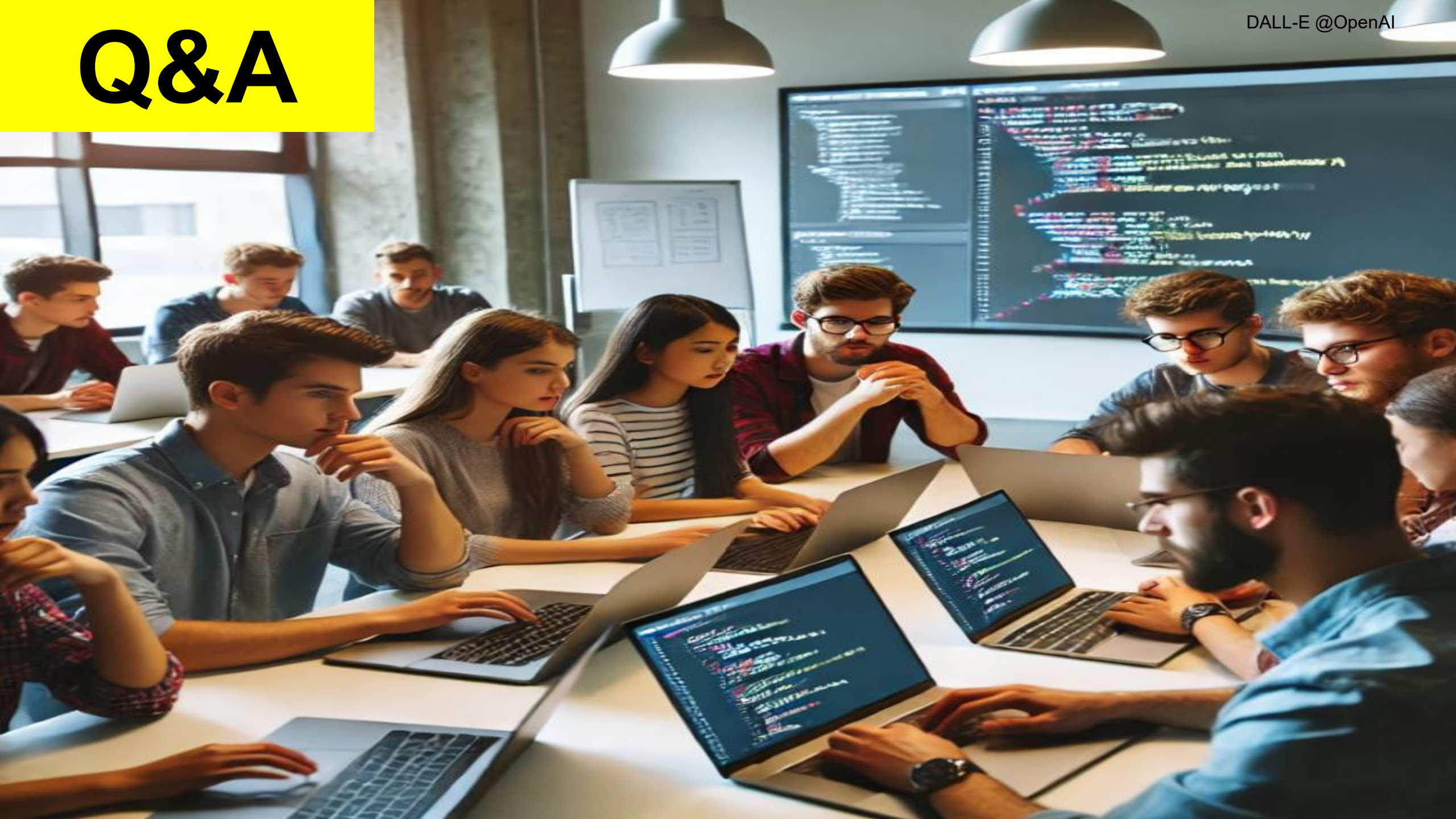
Q&A



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