

ARTIFICIAL INTELLIGENCE VS HUMAN: WHO WINS THE BOARD GAME

Minutes

Date/Time: Friday 5th February 2021, 1:00 pm (Australian Central Daylight Time)

Location: Zoom: [833-5515-3796](https://au.adelaide.edu.au/join/833-5515-3796) Password: LAUS

Present:

Supervisor: Prof. Peng Shi (Chair);

Advisors: Xin Yuan (Secretary) and Yang Fei;

Group members: Vignershraj Perumal Raja, Zichen Hao and Zhuoran Yang.

1 Meeting started at 1:05 pm

2 Apologies

No apologies recorded.

3 Minutes of the last meeting

Not apply, since this is the first meeting after the change of supervision.

4 Actions arising from the last meeting

Not apply, since this is the first meeting after the change of supervision.

5 Status report

5.1 Report from each team member

Group members introduced themselves. Peng is the new project supervisor, and Xin and Yang is the advisors for the project. All three student memberships are enrolled in Master of Electronic Engineering. Currently, Zichen and Zhuoran are off-shore due to the travel restrictions, and Viki is in Adelaide.

Viki and Zhuoran were assigned to search and review algorithms for implementing AI agents. In the first semester for the project, they have compared a number of different algorithms and selected MCTS and MiniMax to be used for the project. Zichen was selecting board games to evaluated the AI agents. Chinese chess was selected because it fits the best use of the proposed algorithms. Currently, Zichen is coding a testing environment.

All group member claimed to be work for 3-5 hours per day on this project.

5.2 Other activities

Students gave a general introduction of the project and reported the current progress. The project has just completed the literature review stage.

6 New Business

Not apply, leave this section for the next meeting

7 Supervisor's feedback

Peng introduced general requirements, assessments and project management. He required that student members shall arrange meetings with supervisors and advisors at least once a week, and the weekly project meeting is set to be on Friday at 1 pm. Student members need to take turns to prepare meeting agendas and record minutes as a secretary and a chair. Every agenda needs to be sent to all attendees one day before the project meeting, and the minutes need to be recorded and sent out within one day after the meeting. Student members are required to attempt all project meetings. Weekly meetings between students are also required.

8 Next meeting

The next meeting will be held at 1 pm on Friday, the 13th of Feb.

9 Actions

Action to Vernon to create Slack channel and invite all students to join.

Action to Viki to give Vernon access to project group's Box folder.

Action to all group members to prepare demos of current achievements and demonstrate in next project meeting.

10 Meeting closed at 1:44 pm

ARTIFICIAL INTELLIGENCE VS HUMAN: WHO WINS THE BOARD GAME

Minutes

Date/Time: Friday 12th March 2021, 1:00 pm (Australian Central Daylight Time)

Location: Zoom: [833-5515-3796](https://au.adelaide.edu.au/join/83355153796) Password: LAUS

Present:

Supervisor: Prof. Peng Shi;

Advisors: Xin Yuan and Yang Fei;

Group members: Vignershraj Perumal Raja, Zichen Hao (Secretary) and Zhuoran Yang (Chair).

1 Meeting started at 1:11 pm

2 Apologies

Vignershraj Perumal Raja attended the University of Adelaide Career Expo which time was the same as the meeting time, so he did not show up.

3 Minutes of the last meeting

Friday 5th March 2021, 1:05 pm -1:40 pm (Australian Central Daylight Time), 35 mins.

4 Actions arising from the last meeting

Action	Assigned to	Status
Combine all members part	All	Ongoing
Work on algorithms and apply it to board game and get demonstrations	Viki	Ongoing
Modified and completed the system structure	All	Completed
Work on the evaluation function	Zhuoran	Ongoing
Code of five-a-row game environment.	Zichen	Ongoing
Write the evaluation of whole part	Zhuoran	Ongoing
Make the own module of diagram	Zichen	Ongoing

5 Status report

5.1 Report from each team member

Group members introduced what they had done in these weeks. Zichen introduced the part of chessboard code, Zhuoran talk the problems about the evaluation function.

5.2 Other activities

Students talk about the problems that they met and the supervisor gave the advices.

6 New Business

Not apply, leave this section for the next meeting

7 Supervisor's feedback

Vernon suggested that Zichen needs to correct only the black chess and confirmed the input of Tkinter function whether human or the AI, understand the code and write the own module of the UI. All the parts need to combine this week. Zhuoran needs to understand the function that he used for the evaluation, the code is for the whole process or just for one step, write an evaluation notes for his part. For all the students, they should search the problems on Baidu/ Google when they met the problem and fix it before the meeting. The tutors are here to help to find out the part that students left or forgot to do in the process. The supervisors suggested that students need to find out a value time for the meeting and send it through the Slack.

8 Next meeting

The next meeting will be held at 1 pm on Friday, the 19th of March.

9 Actions

Action to Zichen is to make the own module of the diagram and send it through Slack on Monday, Zhuoran needs to write an evaluation notes and send it through Slack on Monday. All the codes need to combine.

10 Meeting closed at 1:58 pm

ARTIFICIAL INTELLIGENCE VS HUMAN: WHO WINS THE BOARD GAME

Minutes

Date/Time: Friday 19th February 2021, 1:00 pm (Australian Central Daylight Time)
Location: Zoom: [833-5515-3796](https://au.adelaide.edu.au/join/83355153796) Password: LAUS
Present:
Supervisor: Prof. Peng Shi;
Advisors: Xin Yuan and Yang Fei;
Group members: Vignershray Perumal Raja (Chair), Zichen Hao (Secretary) and Zhuoran Yang.

1 Meeting started at 1:05 pm

2 Apologies

Prof. Peng Shi had another meeting to attend, so he did not show up.

3 Minutes of the last meeting

Friday 12th February 2021, 1:05 pm -1:44 pm (Australian Central Daylight Time), 39 mins.

4 Actions arising from the last meeting

Action	Assigned to	Status
Work on algorithms and apply it to board game and get demonstrations	Viki	Ongoing
Give Vernon access to project group's Box folder	Viki	Completed
Create Slack channel and invite all students to join	Vernon	Completed
Finding more games, not just the Chinese chess game, and providing the code.	Zichen	Ongoing, since the code did not work
Python code for Alpha-Beta pruning algorithm	Zhuoran	Completed
Prepare demos of current achievements and demonstrate	All	Completed

5 Status report

5.1 Report from each team member

Group members introduced what they had done in these two weeks. All the students decided to use Python as their programming tool. Viki introduces that he used mini-max algorithms and apply it to tic-toc game and get demonstrations. Zichen found the program of the Chinese chess and five-a-row, but it did not work well. Zhuoran apply the alpha-beta pruning algorithm.

5.2 Other activities

Students talk about the problems that they met and the supervisor gave the advices.

6 New Business

Not apply, leave this section for the next meeting

7 Supervisor's feedback

Vernon suggested that it is better to focus on Chinese chess first because students has read many literatures on it. Tic-toc game is too easy to choose, there are not many options to choose and the results are always the computers/machine wins. Vernon also suggested that students need to make a system design of the structure and separate the work to each person. The system design structure of Chinese chess should be sent through Slack by Wednesday, then supervisor and students can have time to find the mistakes and correct them.

8 Next meeting

The next meeting will be held at 1 pm on Friday, the 26th of Feb.

9 Actions

Action to all group members to prepare the Chinese chess structure of the system design and separate the work to each person. Sending the code through Slack by next Wednesday.

10 Meeting closed at 1:32 pm

ARTIFICIAL INTELLIGENCE VS HUMAN: WHO WINS THE BOARD GAME

Minutes

Date/Time: Friday 26th February 2021, 1:00 pm (Australian Central Daylight Time)

Location: Zoom: [833-5515-3796](https://au.adelaide.edu.au/join/833-5515-3796) Password: LAUS

Present:

Supervisor: Prof. Peng Shi;

Advisors: Xin Yuan and Yang Fei;

Group members: Zichen Hao (Chair) and Zhuoran Yang (Secretary) and Vignershranj Perumal Raja.

1 Meeting started at 1:05 pm

2 Apologies

Prof. Peng Shi was not available to attend the meeting.

3 Minutes of the last meeting

Friday 19th February 2021, 1:05 pm -1:35 pm (Australian Central Daylight Time), 30 mins.

4 Actions arising from the last meeting

Action	Assigned to	Status
Work on algorithms and apply it to five-in-a-row and get demonstrations	Viki and Zhuoran	Ongoing
Code for five-in-a-row game environment	Zichen	Ongoing
Create flow chart of algorithms and system structure	All	Completed

5 Status report

5.1 Report from each team member

Viki explained the flow chart and the system structure. Zichen wrote Python code for the five-in-a-row environment, but it did not work well. Zhuoran wrote Python code for Negamax algorithm with alpha-beta pruning.

5.2 Other activities

Students had some doubts about the system architecture and advisors explained what system architecture is.

6 New Business

Not apply, leave this section for the next meeting

7 Supervisor's feedback

Vernon suggested that student members should choose one of the games instead of all 3 games. He required that system architecture should be the first thing to complete, and it should be sent to advisors through Slack by next Monday.

8 Next meeting

The next meeting will be held at 1 pm on Friday, the 5th of March.

9 Actions

Action to all group members to prepare the system architecture and send it by next Monday

10 Meeting closed at 1:35 pm

ARTIFICIAL INTELLIGENCE VS HUMAN: WHO WINS THE BOARD GAME

MINUTES

Date/Time: Friday 5th March 2021, 1:00 pm (Australian Central Daylight Time)

Location: Zoom: [833-5515-3796](https://au.adelaide.edu.au/join/833-5515-3796) Password: LAUS

10.1 Present:

Supervisor: Prof. Peng Shi;

Advisors: Xin Yuan and Yang Fei;

Group members: Zichen Hao (Chair) and Zhuoran Yang (Secretary) and Vignershraj Perumal Raja.

1 Meeting started at 1:05 pm

2 Apologies

Prof. Peng Shi was not available to attend the meeting.

3 Minutes of the last meeting

Friday 26th February 2021, 1:05 pm -1:40 pm (Australian Central Daylight Time), 30 mins.

4 Actions arising from the last meeting

Action	Assigned to	Status
Work on algorithms and apply it to five-in-a-row and get demonstrations	Viki and Zhuoran	Ongoing
Code for five-in-a-row game environment	Zichen	Ongoing
Corrections in system structure	All	Ongoing

5 Status report

5.1 Report from each team member

Viki explained the system structure. Zichen wrote Python code for the five-in-a-row environment, with certain iterations which she is trying to change.

5.2 Other activities

Students had some doubts about the system architecture and function of game environment. Advisors gave them a detail idea about it.

6 New Business

Not apply, leave this section for the next meeting

7 Supervisor's feedback

Vernon suggested to choose one game and one algorithm with a proper system design along with a detailed explanation because system structure guides the team mates to stick with the perfect goal instead of getting deviated. It is discussed to submit it by this weekend.

8 Next meeting

The next meeting will be held at 1 pm on Friday, the 12th of March.

9 Actions

Action to all group members to work on the system design with detailed explanation and send it by this weekend (7th March 2021).

10 Meeting closed at 1:40pm

ARTIFICIAL INTELLIGENCE VS HUMAN: WHO WINS THE BOARD GAME

Minutes

Date/Time: Friday 12th March 2021, 1:00 pm (Australian Central Daylight Time)

Location: Zoom: [833-5515-3796](https://au.adelaide.edu.au/join/83355153796) Password: LAUS

Present:

Supervisor: Prof. Peng Shi;

Advisors: Xin Yuan and Yang Fei;

Group members: Vignershraj Perumal Raja, Zichen Hao (Secretary) and Zhuoran Yang (Chair).

1 Meeting started at 1:11 pm

2 Apologies

Vignershraj Perumal Raja attended the University of Adelaide Career Expo which time was the same as the meeting time, so he did not show up.

3 Minutes of the last meeting

Friday 5th March 2021, 1:05 pm -1:40 pm (Australian Central Daylight Time), 35 mins.

4 Actions arising from the last meeting

Action	Assigned to	Status
Combine all members part	All	Ongoing
Work on algorithms and apply it to board game and get demonstrations	Viki	Ongoing
Modified and completed the system structure	All	Completed
Work on the evaluation function	Zhuoran	Ongoing
Code of five-a-row game environment.	Zichen	Ongoing
Write the evaluation of whole part	Zhuoran	Ongoing
Make the own module of diagram	Zichen	Ongoing

5 Status report

5.1 Report from each team member

Group members introduced what they had done in these weeks. Zichen introduced the part of chessboard code, Zhuoran talk the problems about the evaluation function.

5.2 Other activities

Students talk about the problems that they met and the supervisor gave the advices.

6 New Business

Not apply, leave this section for the next meeting

7 Supervisor's feedback

Vernon suggested that Zichen needs to correct only the black chess and confirmed the input of Tkinter function whether human or the AI, understand the code and write the own module of the UI. All the parts need to combine this week. Zhuoran needs to understand the function that he used for the evaluation, the code is for the whole process or just for one step, write an evaluation notes for his part. For all the students, they should search the problems on Baidu/ Google when they met the problem and fix it before the meeting. The tutors are here to help to find out the part that students left or forgot to do in the process. The supervisors suggested that students need to find out a value time for the meeting and send it through the Slack.

8 Next meeting

The next meeting will be held at 11 am on Monday, the 29th of March.

9 Actions

Action to Zichen is to make the own module of the diagram and send it through Slack on Monday, Zhuoran needs to write an evaluation notes and send it through Slack on Monday. All the codes need to combine.

10 Meeting closed at 1:58 pm

ARTIFICIAL INTELLIGENCE VS HUMAN: WHO WINS THE BOARD GAME

Minutes

Date/Time: Monday 29th March 2021, 11:00 am (Australian Central Daylight Time)

Location: Zoom: [880 4957 0107](https://au.adelaide.edu.au/join/88049570107) Password: LAUS

Present:

Advisors: Yang Fei;

Group members: Zichen Hao and Zhuoran Yang (Secretary) and Vignershray Perumal Raja (Chair).

1 Meeting started at 11:05 am

2 Apologies

Prof. Peng Shi and Xin Yuan was not available to attend the meeting.

3 Minutes of the last meeting

Friday 12th March 2021, 1:05 pm -1:58 pm (Australian Central Daylight Time), 53 mins.

4 Actions arising from the last meeting

Action	Assigned to	Status
Combine all members part	All	Ongoing
Work on algorithms and apply it to board game and get demonstrations	Viki	Ongoing
Modified and completed the system structure	All	Completed
Work on the evaluation function	Zhuoran	Completed
Code of five-a-row game environment.	Zichen	Completed
Make a diagram of own module	Zichen, Zhuoran	Completed

5 Status report

5.1 Report from each team member

Zichen demonstrated the game environment for five-in-a-row. Viki applied the Minimax algorithm to the game successfully, but it still needs improvement. Zhuoran introduced an optimized algorithm, which would speed up search time.

5.2 Other activities

Deciding next meeting date.

6 New Business

Not apply, leave this section for the next meeting

7 Supervisor's feedback

Yang suggested that students should record the demonstration in advance because the current algorithm takes too much time to response. He also said we could try it on a 10*10 board first. For the idea of optimized algorithm, he suggested we should take every possible situation into consideration.

8 Next meeting

The next meeting will be held at 11 am on Monday, the 12th of April.

9 Actions

Action to all group members to improve the Minimax algorithm and apply the alpha-beta alpha-beta algorithm in the game before the next meeting.

10 Meeting closed at 11:35 am