

A strategical and recreational introduction to artificial intelligence through the game of Go for high schoolers in the Auvergne Rhône-Alpes region

AlphaGo Challenge Match



YOUTH TROPHY – GO & IA

## THE DEPTH OF THE GAME OF GO

Go is a strategy game from China. It pits two players against one another, who on their turn place stones on a chequered board.

The goal is to control the larger area of the board by surrounding it with one's stones, fighting to try and capture the opponent's.

From very simple premises, it allows for great strategical depth

# TROPHÉE DES JEUNES



– GO & IA –

## THE POWER OF DEEP LEARNING

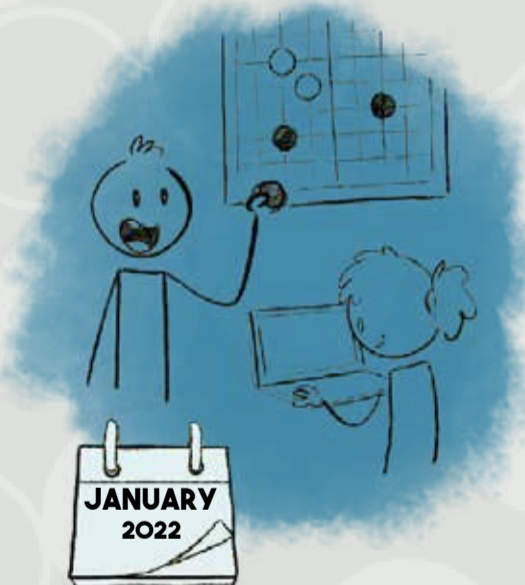
The large size of the board means combinatorics requirements are far beyond the processing power of computers.

Only in 2015 did new developments in neural networks and deep learning allow a computer program to beat a professional Go player for the first time.

That was a historical step in research on human mind simulation, well illustrated in the film «AlphaGo»

## OBJECTIVES FOR THE YOUTHS

- Open their minds to a booming subject
- Develop their curiosity and thinking abilities
- Promote diversity in IT and intellectual games



### 1<sup>ST</sup> PHASE

From January 2022

6 sessions of 1 or 2 hours in classes, mixing Go initiations and introduction to neural networks and their uses



### 2<sup>ND</sup> PHASE

Spring 2022

The high schoolers who involved themselves the most will be selected for a day of competition between high-schools in Lyon



A project submitted by the Go clubs of the Auvergne Rhône-Alpes region and the Rhône-Alpes League, supported by collectivities and many other partners.



Ligue Rhône-Alpes de jeu de Go





# TROPHY PROCEEDINGS

## 1<sup>ST</sup> PHASE

January 2022

**Intervention in high-schools on the two fronts :  
Go and artificial intelligence**

Screening of the «Alphago» film

**4 sessions on the game of Go**  
(from introduction to actual games)  
**2 sessions on artificial intelligence**

+ **more content available** on the website  
(videos, exercises, online Go games...)

## 2<sup>ND</sup> PHASE

Spring 2022

**Youth selection** in every high school  
(about 60 people)

**Meeting day between the high schools**  
(at the Maison des Mathématiques et de  
l'Informatique, Lyon) :

- Go tournament
- AI challenges
- lecture, demonstrations
- presentation of various uses for artificial intelligence



## AI WORKSHOPS

Pedagogical workshops centred on how neural networks work, completed by a screening of the «Alphago» film.

Thanks to experimentation on concrete and playful examples, **the youth will be brought to test by themselves the building blocks of deep learning.**

Indeed, we think some insight into this «artificial intelligence» is instrumental for citizens today in a world where **the stakes of such technologies are more and more diverse and structuring.**



## DIVERSITY

Intellectual sports are strongly affected by a lack of diversity (only 10% of women Go players) despite being non-discriminating activities at first glance. The IT field suffers from the same issue (IT jobs : 30% of women, and only 15% in technical work or computer project exploitation).

**Transforming the youth's image of these activities in high school**, where diversity is still well-established and at the time when they choose their professional orientation, is primordial.

**Diversity for the high schoolers invited to the final event will be made certain**, and the contributors will be as far as possible evenly split between women and men.

## IN PERSON AND ONLINE

To answer the exceptional conditions of 2021 with adaptability, **the entirety of the intervention program, from the sessions to the exercise portions, is available online**, on dedicated secure servers.

If the situation allows, most interventions will be brought in person to the high schoolers, the additional resources being always available on the platform.



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A similar project, already called «Youth Trophy», was organised by the Grenoble Go Club and the Rhône-Alpes Go League in 1991 and 1992. Sponsored by Hewlett-Packard, it promoted one of the very first Go programs, «Many Faces». The winner won a trip to Japan. This project reached to hundreds of high schoolers from Grenoble, Lyon, Chambéry, and Annecy. One of the youths introduced to Go then, Bernard Helmstetter, became French Go champion in 2003 and made it to 4th place in the Amateur World Championship in 2004. He now works in AI.