



# **Reproducing paper — "Technical and Humanities Students' Perspectives on the Development and Sustainability of Artificial Intelligence (AI)" by Vasile Gherheș and Ciprian Obrad (2018)**

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# Agenda

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01

Introduction

02

Data distribution

03

Our Results

04

Paper

**The perception of students on AI in education is a crucial topic to analyze from an economic standpoint. The incorporation of AI in the education sector has been increasing in recent years, with the emergence of smart classrooms and personalized learning platforms. We decided to understand how it changed over the years by reproducing the paper.**

# We structured our work in conceive 5 steps



01

## The right data

The data we found are excellent as they both compare student and both from Romania.

02

## Our Workflow

We used R as our language of choice. Analysis was performed in a Markdown.

03

## Plotting forecast results

We decide to first do our research and then compare with the paper

04

## Optimising and Quattro

After whole analysis we will manage to optimize our code and prepare quattro

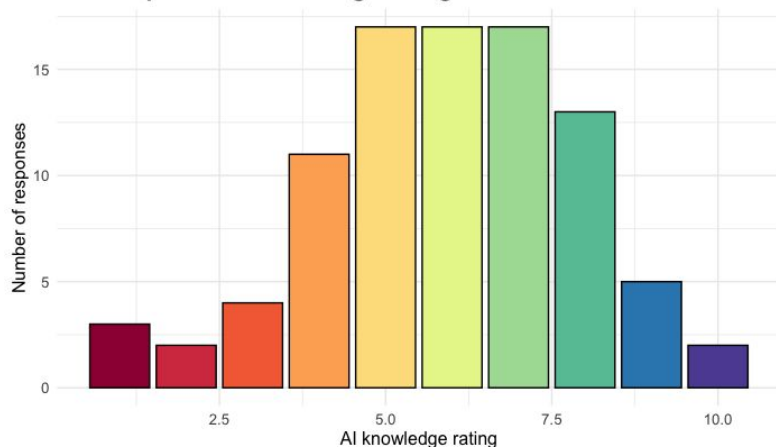
05

## Additional

We will additionally do the correlation plot and further econometric analysis

# Most students read about AI from Internet and Social Media

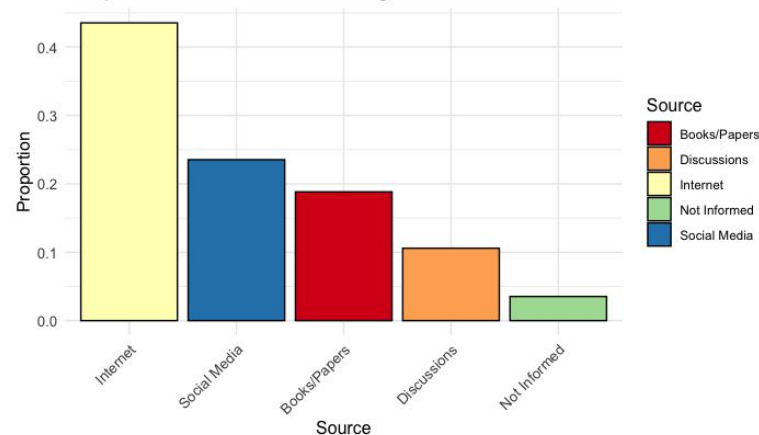
A countplot of AI knowledge ratings



## Data

In terms of the comparison, the data we found are excellent as they both compare student and both from Romania. Unfortunately, our data set is \*10 times smaller\* but much more informative. Our data are also much more up to date and we can say that we compare data between two "AI Waves" — one from 2017 and another from 2022.

Proportion of Students Using Each Source

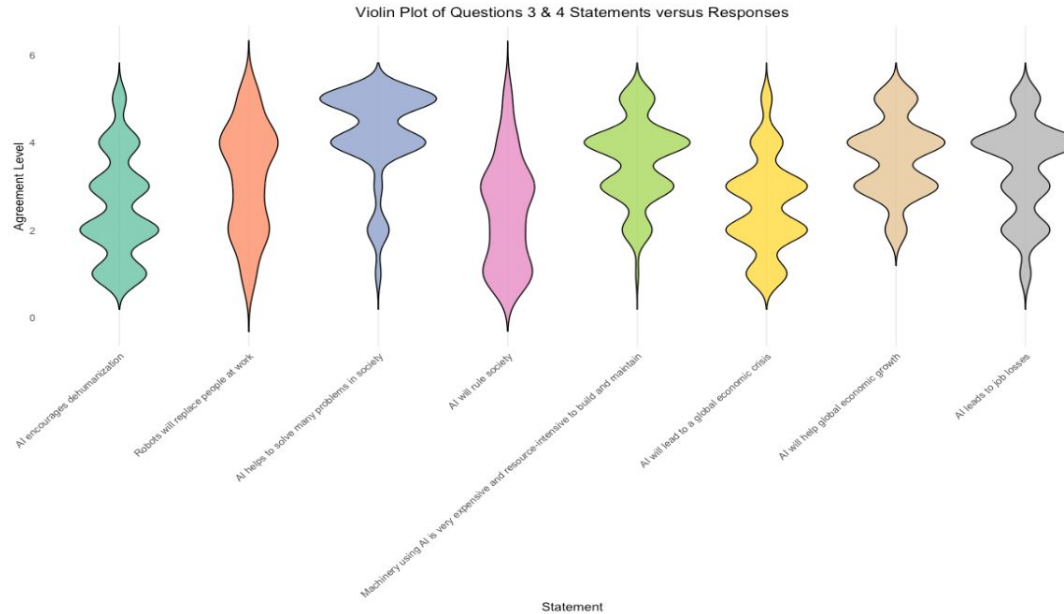


## Dependent variable

Dependent variable in our data set is self-reported knowledge about AI on 1-10 scale, where 1 means poor and 10 means excellent

Because of scale differences we translated 10-points scale to factor variable with 5 levels

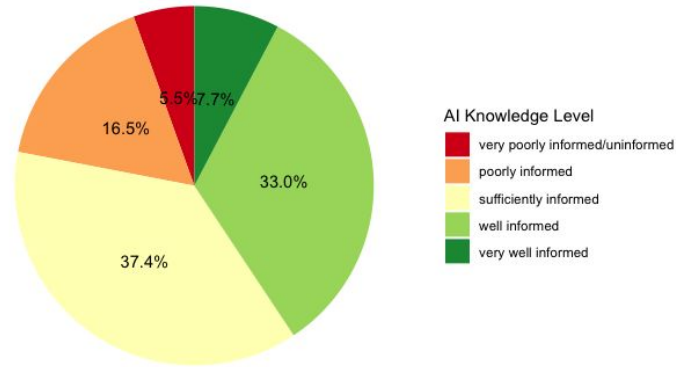
# What students think about the AI



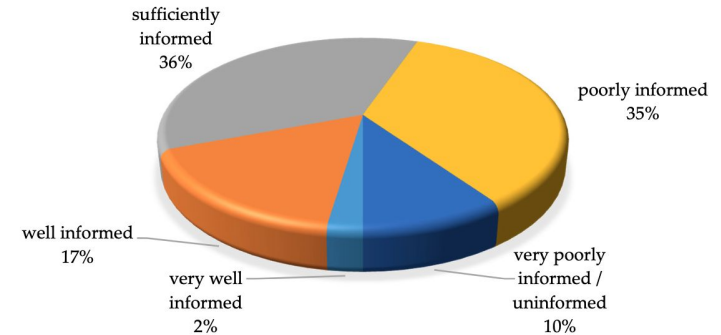
**Students have high hope towards AI help solve problems in society.**

# Our data correspond in terms of knowledge between the years

Distribution of AI Knowledge Levels



How informed do you believe yourself to be about "artificial intelligence" (AI)?



**Students in 2022 were 385% more “Very Well Informed” and less by 45% “very poorly informed”**

## Comparison of the outcome variables divided by gender

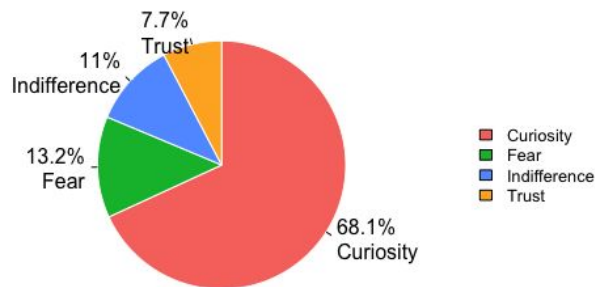
| AI Knowledge Level              | Female (%) | Male (%) | Female (Paper) | Male (Paper) |
|---------------------------------|------------|----------|----------------|--------------|
| very poorly informed/uninformed | 1.7%       | 12.5%    | 3.8%           | 14.4%        |
| poorly informed                 | 18.6%      | 12.5%    | 27%            | 41.7%        |
| sufficiently informed           | 42.4%      | 28.1%    | 41.3%          | 31.9%        |
| well informed                   | 32.2%      | 34.4%    | 23.6%          | 11.2%        |
| very well informed              | 5.1%       | 12.5%    | 4.3%           | 0.8%         |

**Students in 2022 were 385% more “Very Well Informed” and less by 45% “very poorly informed”**

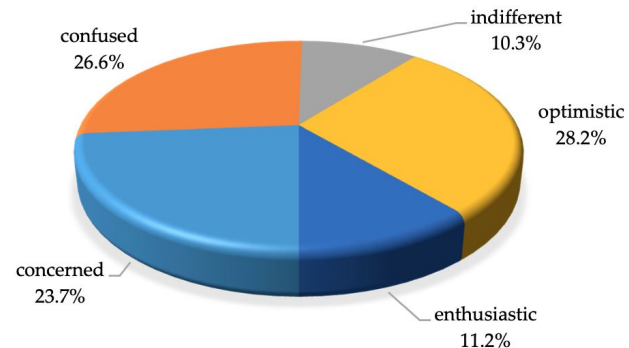


# Now students are neither feared or optimistic but more curious

**Students' Feelings about the Development of AI**



How does thinking about what might happen in the future due to the development of artificial intelligence make you feel?



**Students were much more optimistic about AI and less feared**

# Job replacement

| Replacing the humans and jobs by gender | Female (%) | Male (%) |
|---|------------|----------|
| Strongly Disagree                       | 6.8%       | 12.5%    |
| Partially Disagree                      | 27.1%      | 21.9%    |
| Neutral                                 | 22%        | 6.2%     |
| Partially Agree                         | 39%        | 31.2%    |
| Fully Agree                             | 5.1%       | 28.1%    |

|  |                           | Male   | Female |
|--|---------------------------|--------|--------|
| I agree with artificial intelligence replacing humans in certain activities and jobs | Totally agree             | 48.9%  | 25.9%  |
|  | Indifferent               | 23.6%  | 19.4%  |
|  | Totally disagree          | 19.8%  | 44.2%  |
|  | Don't know / won't answer | 7.6%   | 10.4%  |
| Total  |                           | 100.0% | 100.0% |

Students in 2022 are less willing to fully commit to one side of an argument

# Threat for humanity

| AI will rull society/destroy humanity | Female (%) | Male (%) |
|---------------------------------------|------------|----------|
| Very low                              | 30.5%      | 31.2%    |
| Low                                   | 22%        | 12.5%    |
| Neighter low or high                  | 37.3%      | 25%      |
| High                                  | 8.5%       | 18.8%    |
| Very high                             | 1.7%       | 12.5%    |

|   |                      | Male  | Female |
|---|----------------------|-------|--------|
| What do you think is the probability that artificial intelligence machines will destroy humanity? | very high            | 8.4%  | 15.5%  |
|   | high                 | 22.7% | 29.5%  |
|   | neither high nor low | 28.9% | 29.5%  |

Students in 2022 in general see AI as less of a threat than previously.  
 However, calculations from the paper seem to be of a very poor quality.

# Overall attitude towards AI and its consequences

| AI helps to solve many problems in society | Female (%) | Male (%) |
|--|------------|----------|
| Very low                                   | 30.5%      | 31.2%    |
| Low  | 22%        | 12.5%    |
| Neither low or high                        | 37.3%      | 25%      |
| High                                       | 8.5%       | 18.8%    |
| Very high                                  | 1.7%       | 12.5%    |

|   |                           | Male  | Female |
|---|---------------------------|-------|--------|
| Do you believe that the development of artificial intelligence will have a positive influence on society? | yes                       | 66.8% | 51.5%  |
|   | no                        | 18.9% | 29.5%  |
|   | I don't know/won't answer | 14.3% | 19.1%  |

**Students in 2022 are less optimistic about AI having positive influence on society**

We can observe much higher interest in AI and more disproportion in knowledge. Student are less trustful or feared but more curious. People also believe that AI will take their job but also solve big problems.



An aerial photograph of a city skyline at sunset. The sky is a mix of orange, yellow, and blue, with scattered clouds. Several tall skyscrapers are visible, their windows glowing with interior lights. One prominent building on the left has a unique, angular, triangular top. Another building in the center-right has 'INTERCONTINENTAL' written on its upper floors. In the foreground, there are lower-rise buildings, including one with a curved facade and another with 'SATURN' signage. A road with traffic is visible in the lower-left. The text 'Thank you for your attention' is overlaid in a large, white, sans-serif font across the center of the image. A thin white vertical line is positioned to the left of the text.

Thank you for  
your attention