



香港城市大學
City University of Hong Kong



AAVS CPD Webinar Series:

The use of AI and digital technologies to enhance learning of Gen Z veterinary students

Artificial Intelligence in Veterinary Medicine Teaching and Practices

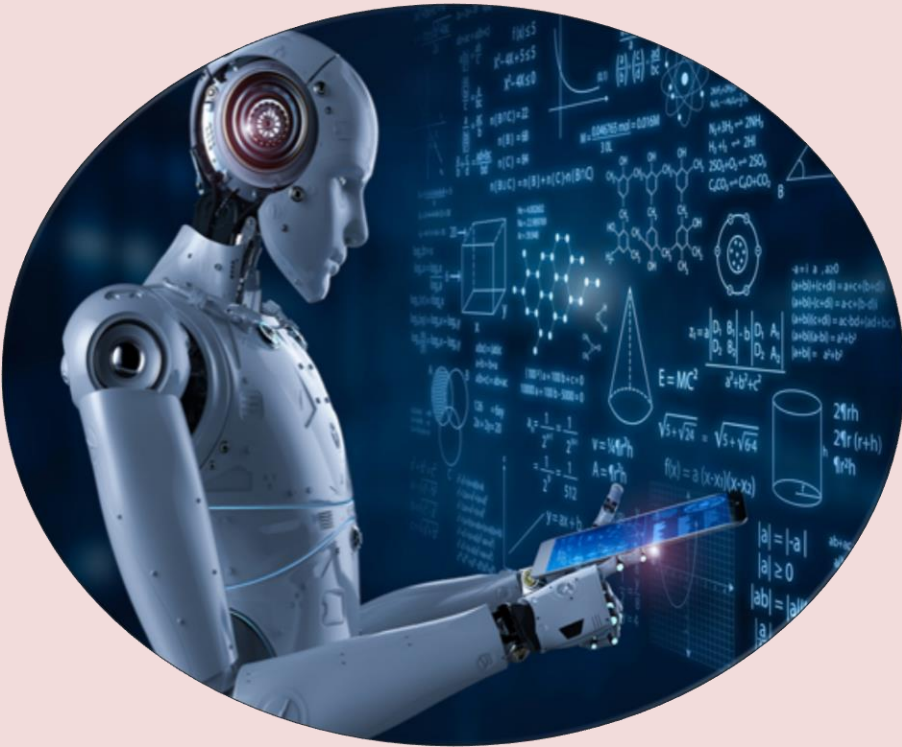
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Outline



Introduction

30%

What is AI?

10%

Uses of AI

10%

Challenges

10%

AI KAP study

60%

Future directions!

10%

Introduction

- ✓ Artificial intelligence (AI) is a branch of computer science devoted to creating systems to perform tasks that would normally require human intelligence.
- ✓ AI is a broad term that encompasses a variety of subfields and techniques.

(Currents in One Health paper published in JAVMA in May 2022.)

1950

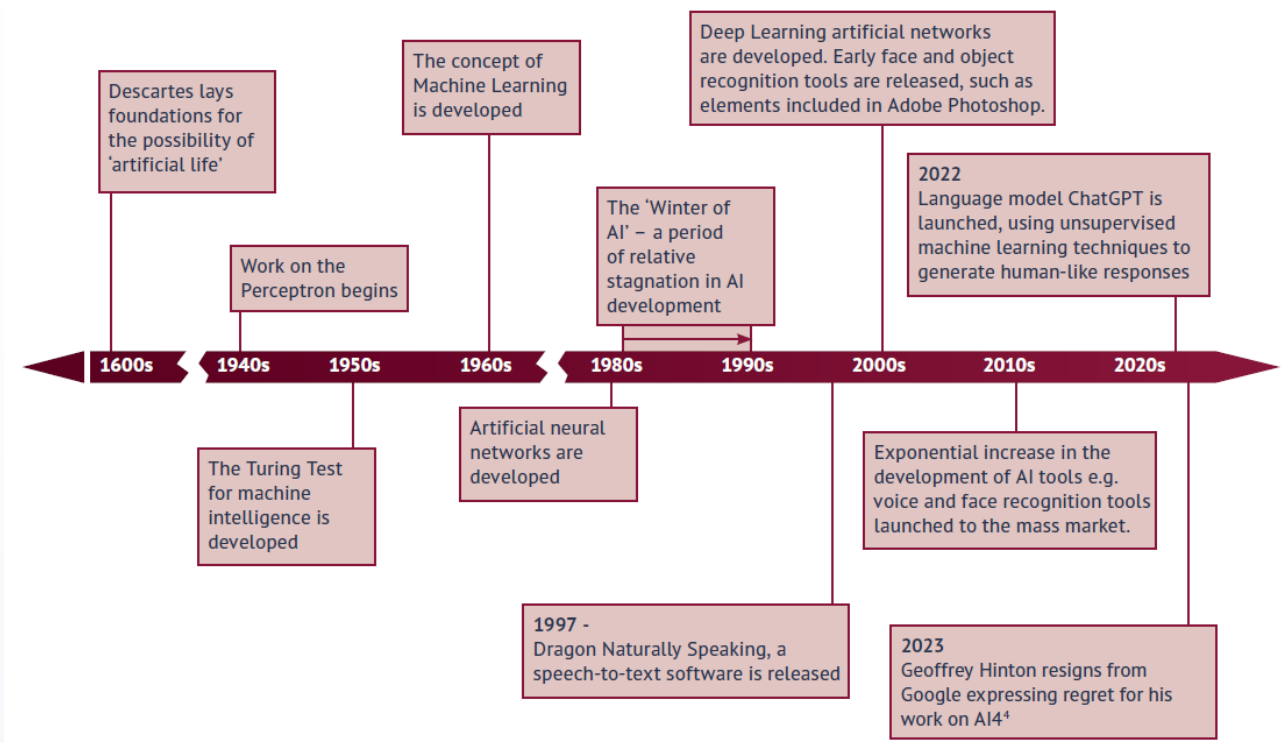
Alan Turing

1956

The Birth of AI
John McCarthy

2022

Language models
ChatGPT



Uses of AI in Veterinary Medicine



Veterinary Education

- Virtual reality and simulation
- Virtual tutors
- Assignments
- Content creation
- Automated assessment
- Student performance feedback



Veterinary workforce

- Telemedicine
- Diagnostic support
- Treatment planning and monitoring
- Workload optimization



Livestock Farming

- Precision livestock farming
- Population disease detection and prevention
- Genetic selection and breeding



Equine Practice

- Health monitoring
- Training and performance optimization
- Race prediction



Research

- Perplexity
- Scite Assistant
- Consensus
- Elicit
- ChatGPT
- ChatPDF
- Research Rabbit
- SciSpace

Challenges

The ethics of AI is a complex and rapidly evolving field that raises many questions about the impact of artificial intelligence on society and the individuals within it.

Data privacy and security

AI systems collect and process large amounts of personal data, privacy and security become major ethical concerns.

Responsibility and liability

Who is responsible and liable in the event of an error or harmful outcome.

Control and transparency

There is a need for education, transparency and control in the decision-making processes of AI systems

Client acceptance

How clients respond to AI technologies.

The Role of Artificial Intelligence in Veterinary Medicine Teaching and Practices

Ibrahim Elsohaby, Wang Hin Wong, Vanessa Barrs



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Diseases and Public Health
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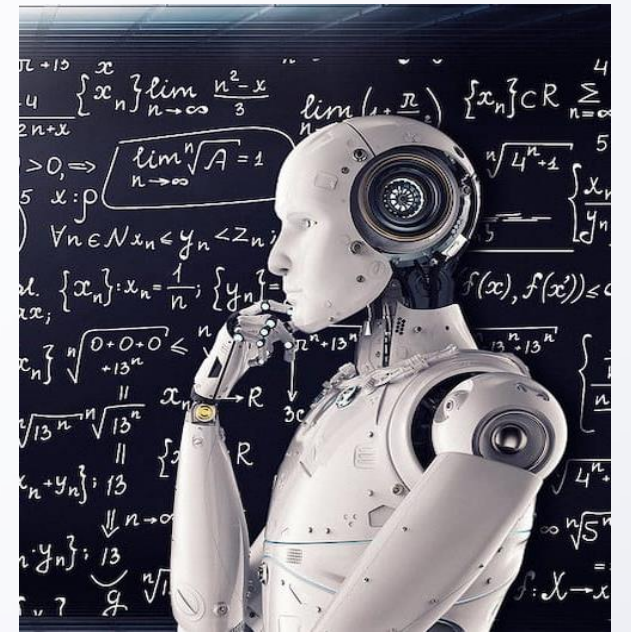


The Role of Artificial Intelligence in
Veterinary Medicine Teaching and Practices

CityU

Objectives

- ✓ To evaluate the knowledge, attitudes, and practices (KAP) of CityU students and faculty towards the use of AI in teaching and practices.
- ✓ To identify any discrepancies (gaps) in the KAP of students and faculty with respect to AI.
- ✓ To explore potential applications of AI that can be integrated into veterinary teaching and practices.



Methodology

1

Study design

- ✓ A cross-sectional study
- ✓ The study protocol has been reviewed and approved by the Human Ethics Review Committee of the City University of Hong Kong (**Application No.: HU-STA-00000513**).
- ✓ Consent form

3

Target populations

- ✓ **Students:** all CityU BVM students and PhD students with veterinary degree.
- ✓ **Faculty:** all CityU faculty participating in teaching BVM students.
- ✓ **Veterinarian:** all veterinarians who are member of the Hong Kong Veterinary Association.

2

Questionnaire



- ✓ QuestionPro
- ✓ 37 open- and closed-ended questions
- ✓ **Section 1:** Demographic Information
- ✓ **Section 2:** AI knowledge
- ✓ **Section 3:** Attitudes toward AI
- ✓ **Section 4:** AI Applications in Veterinary Medicine

4

Data analysis

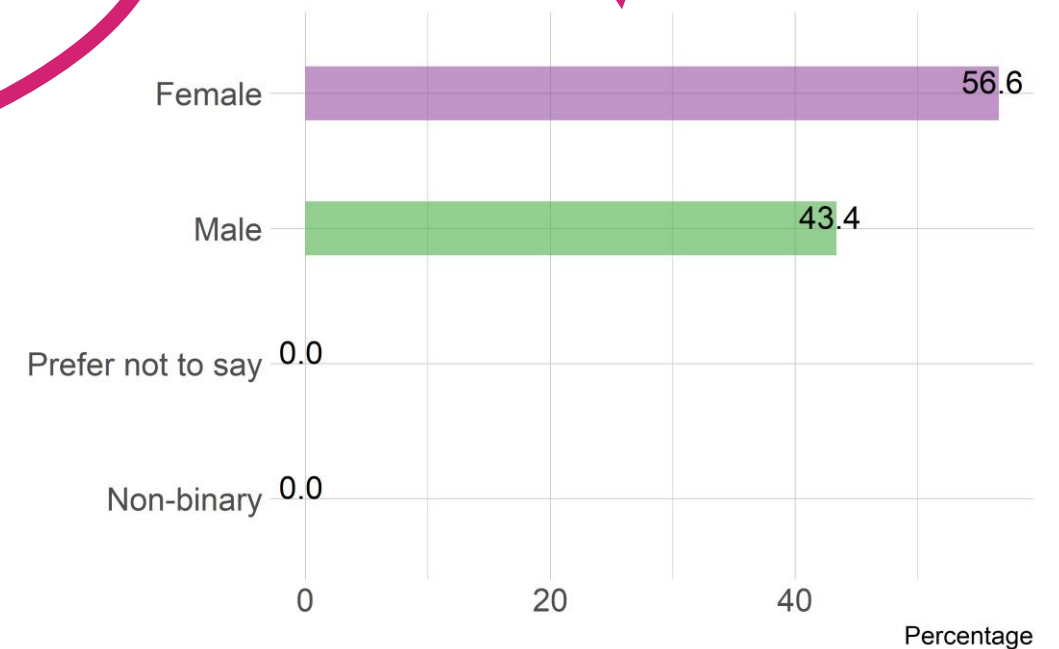
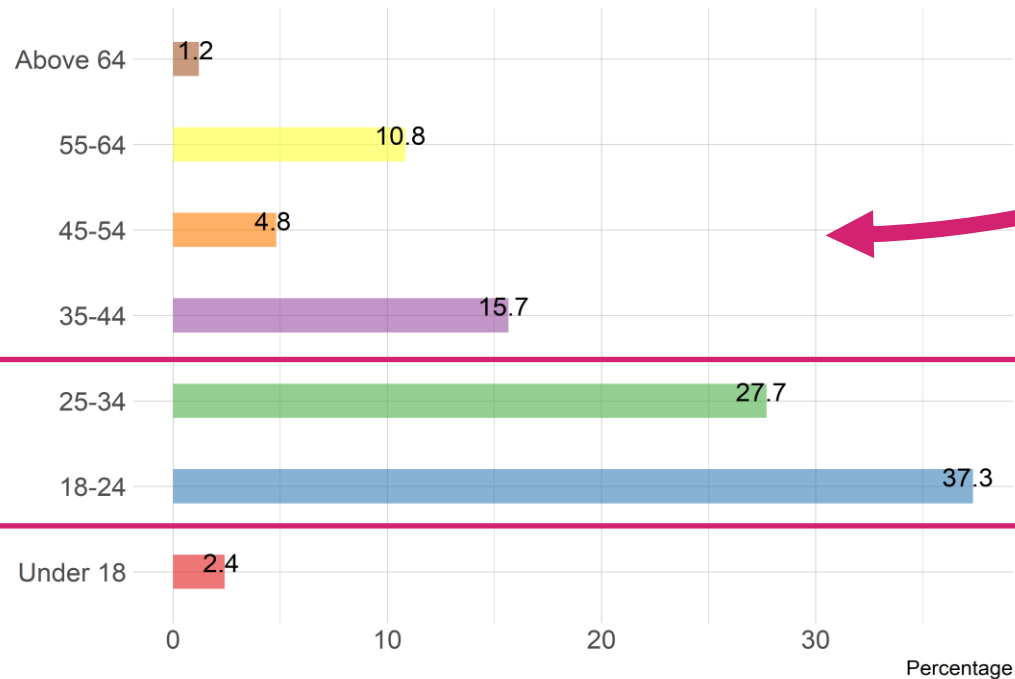
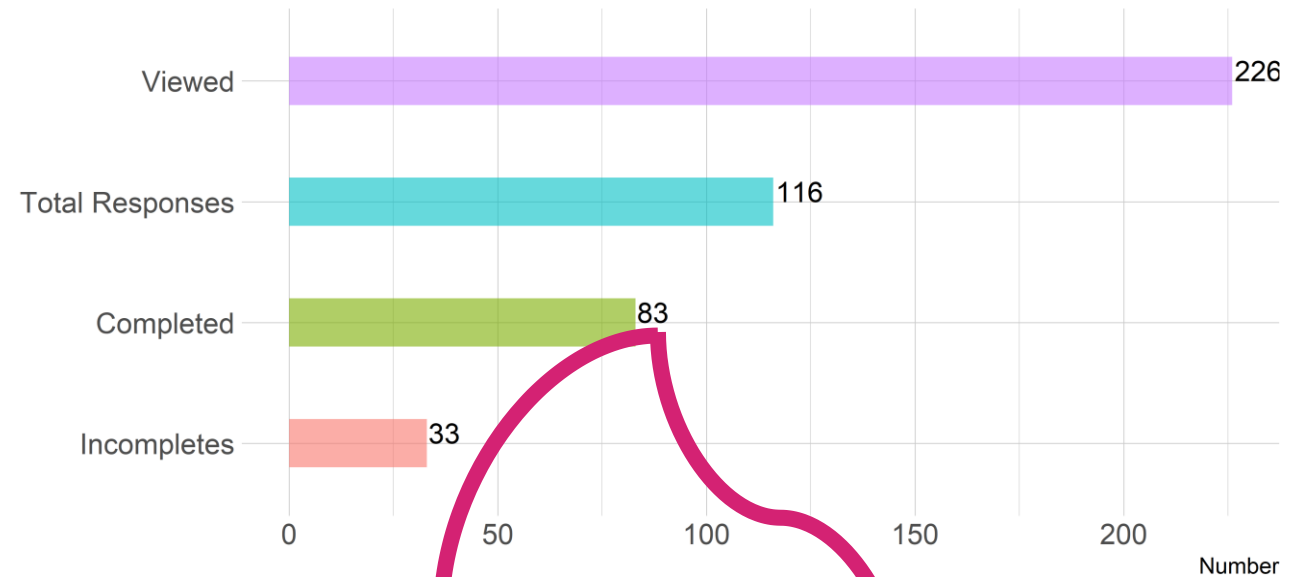
- ✓ Descriptive statistics and data visualization were performed using R software.
- ✓ Please note that R code was developed by ChatGPT 4.



Results

Section 1: Demographic Information

- ✓ 83 completed the survey
- ✓ 57% were females
- ✓ 37% between 18-24 years-old

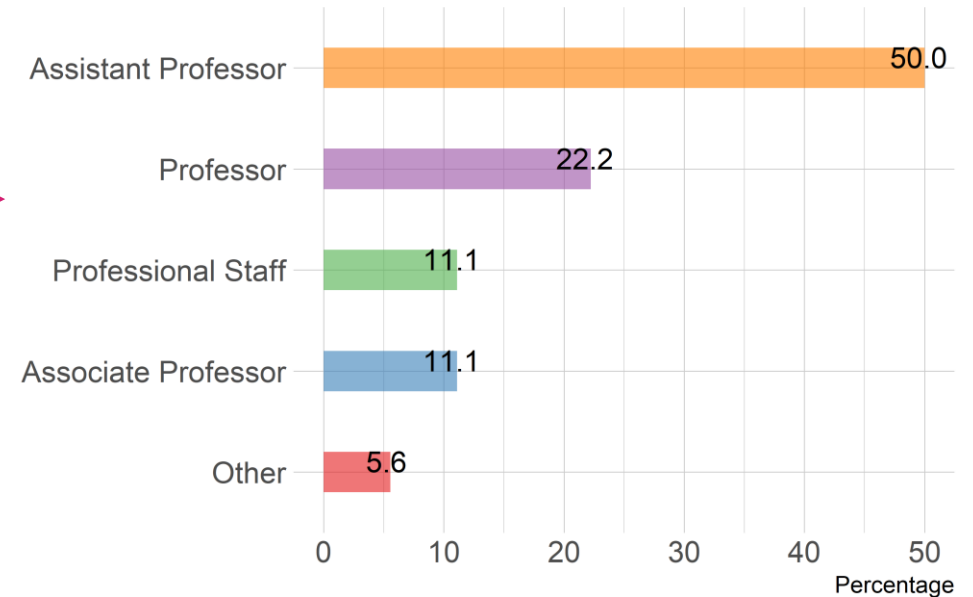
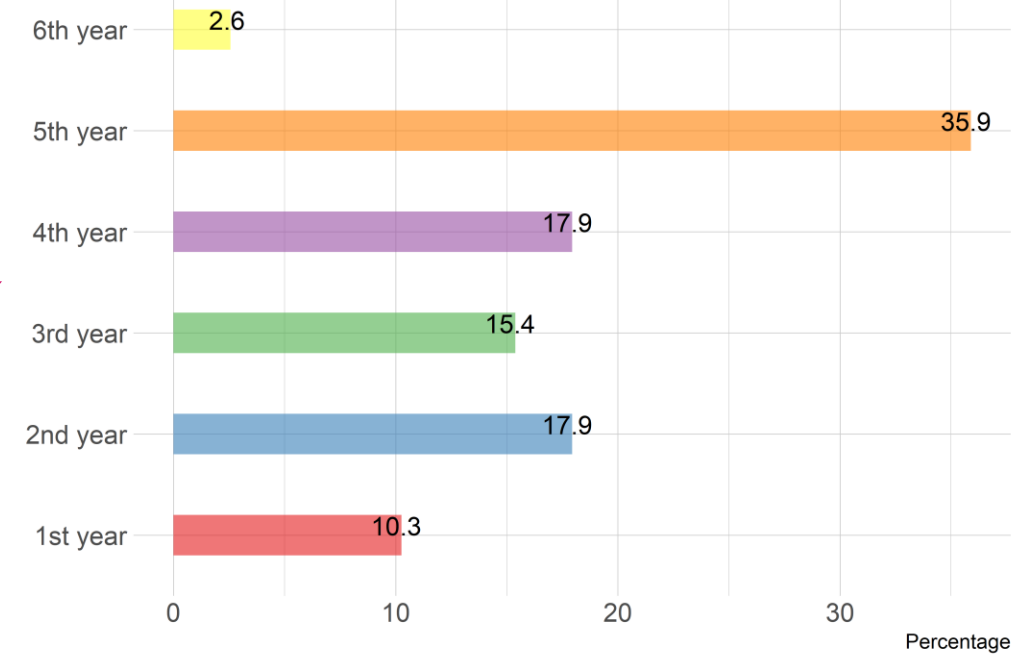
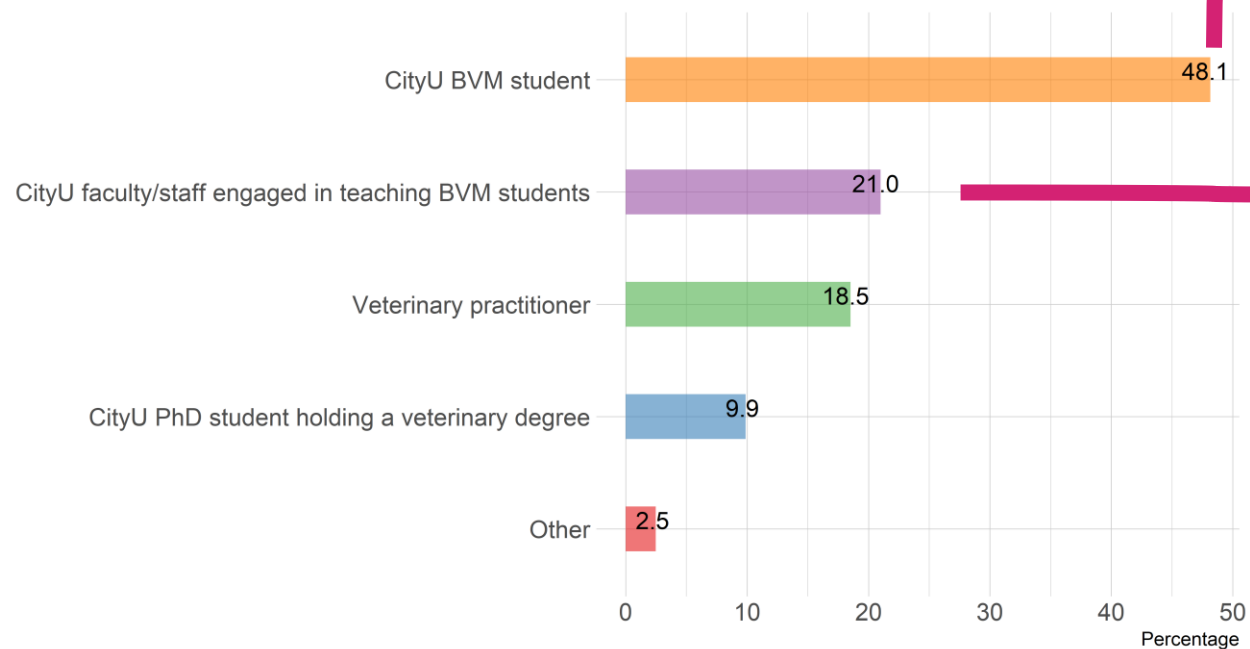


Results

Section 1: Demographic Information

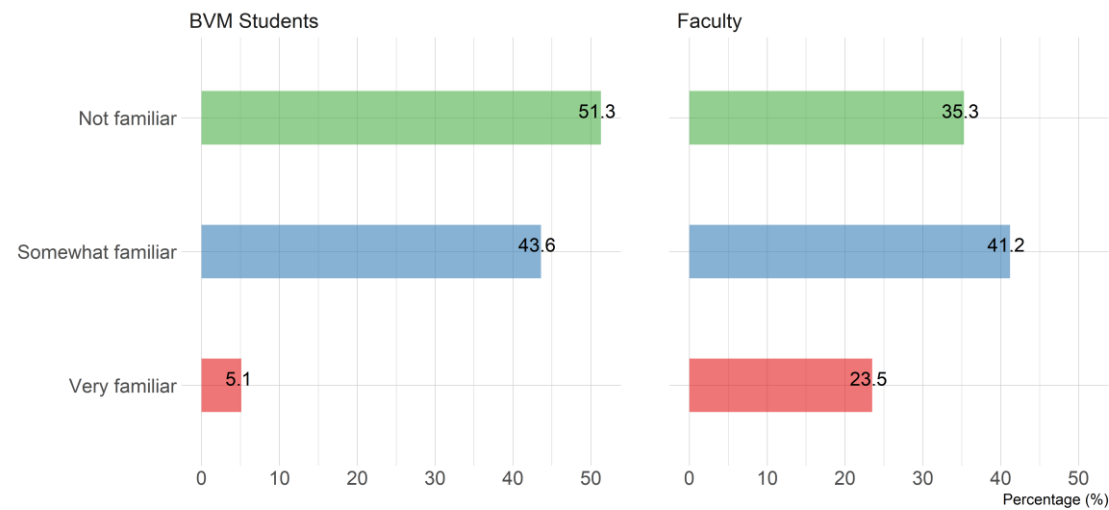
Out of 81 participants:

- ✓ 48% are BVM students
- ✓ 21% are faculty/staff



Results

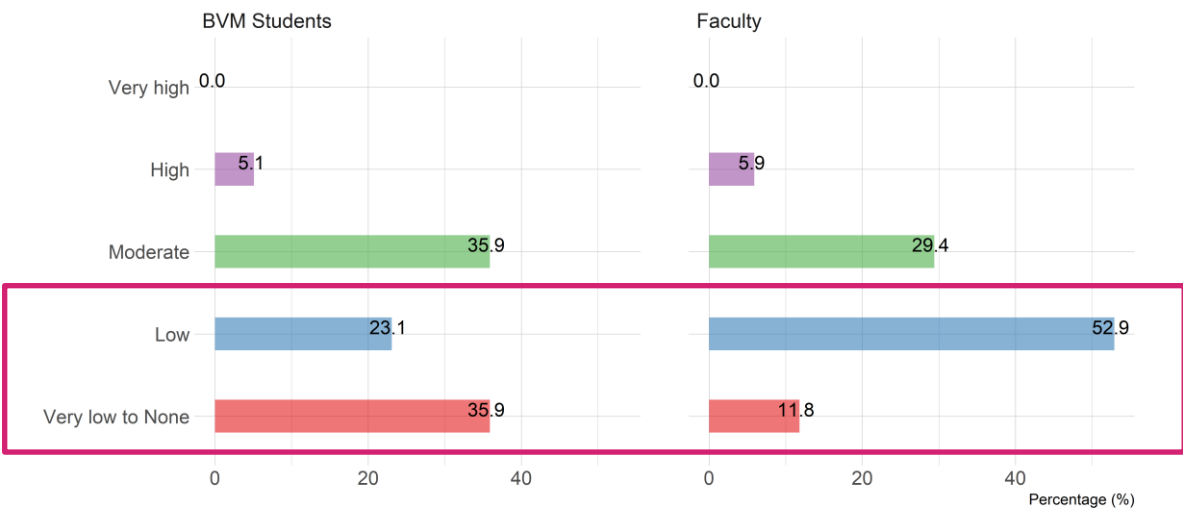
Section 2: AI knowledge



P-value = 0.127

How familiar are you with the concept of AI in the context of veterinary medicine?

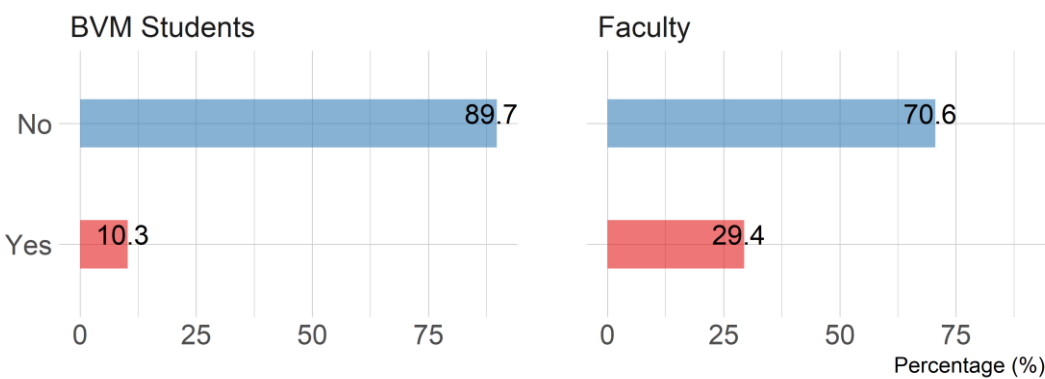
How would you rate your knowledge about AI in veterinary medicine?



P-value = 0.105

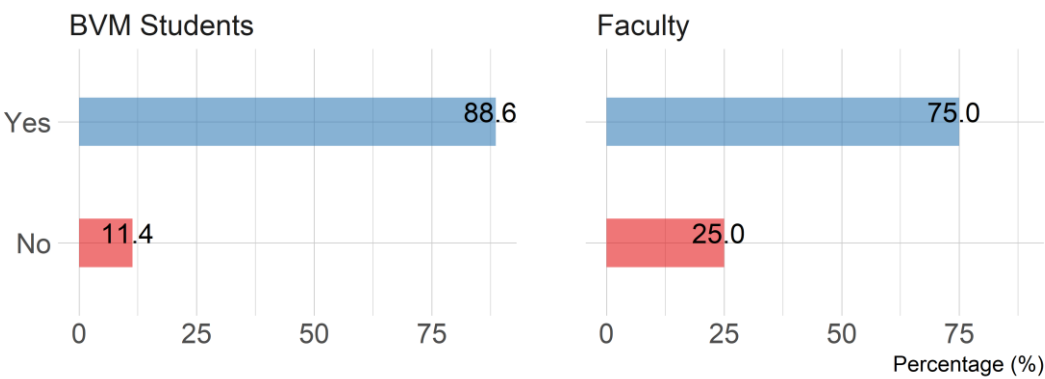
Results

Section 2: AI knowledge



P-value = 0.112

Would you be interested in receiving such training or education?

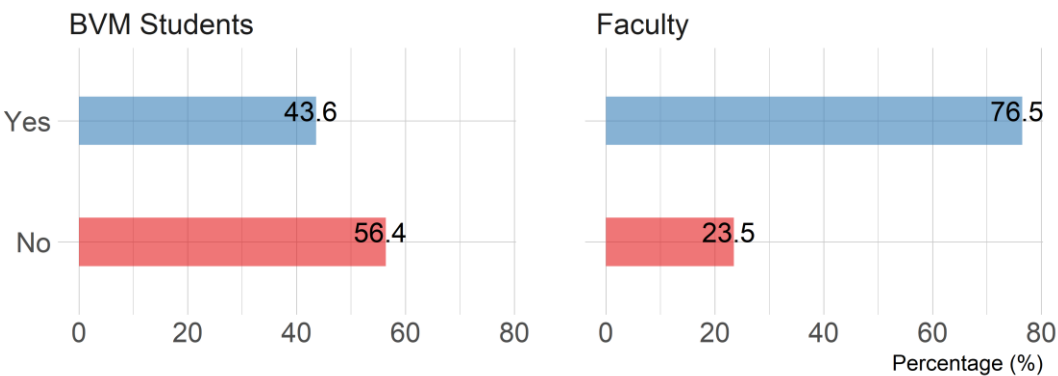


P-value = 0.350

Have you received any training or education on the use of AI in veterinary medicine?

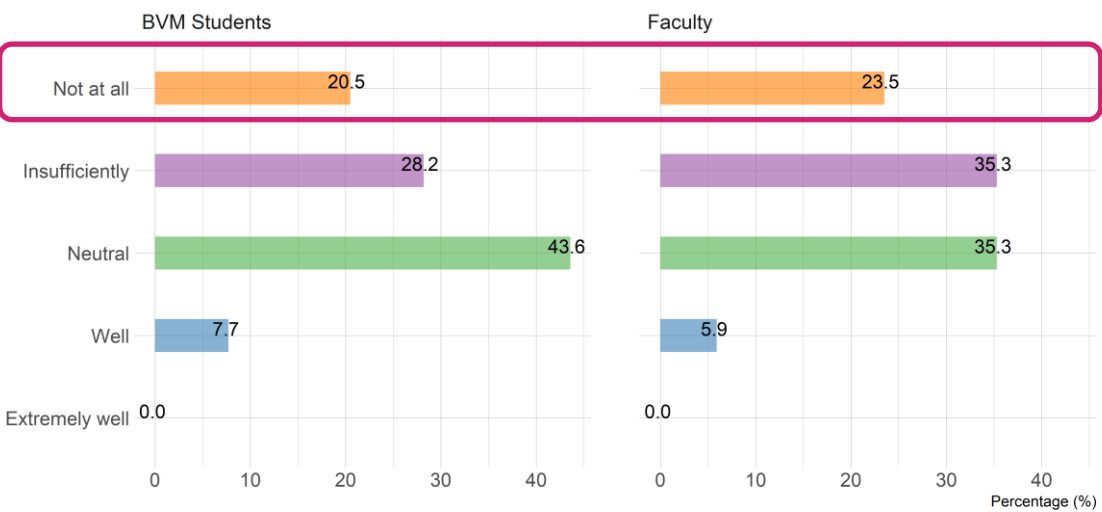
Results

Section 2: AI knowledge



P-value = 0.040

To what extent do you think your veterinary school curriculum adequately covers/covered topics related to AI in veterinary medicine?

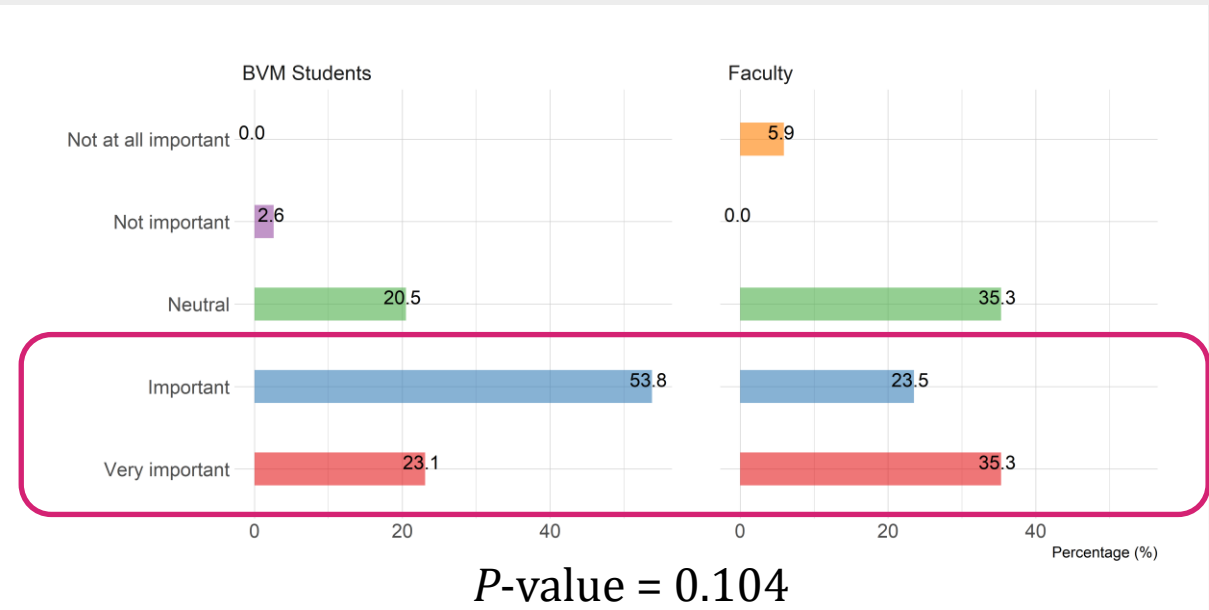


P-value = 0.915

Have you encountered any specific AI applications or technologies used in veterinary medicine during your veterinary education or practical experiences?

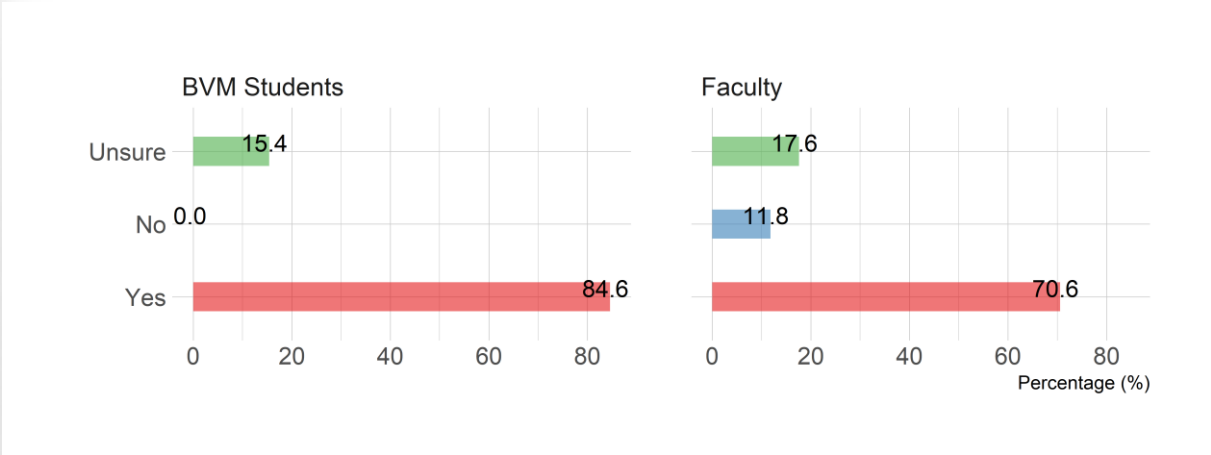
Results

Section 2: AI knowledge



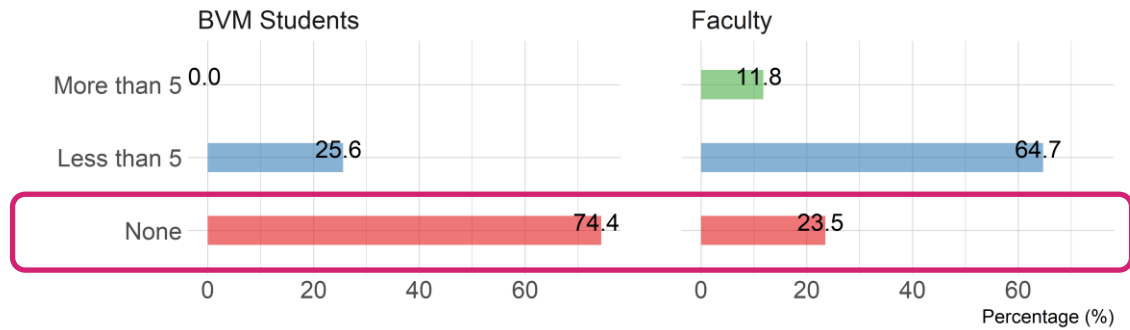
In your opinion, how important is it for veterinary students to have a foundational understanding of AI concepts in their education?

Do you think that there is a need for collaborative efforts among veterinary teachers and researchers to collectively enhance their knowledge and teaching practices related to AI?



Results

Section 2: AI knowledge

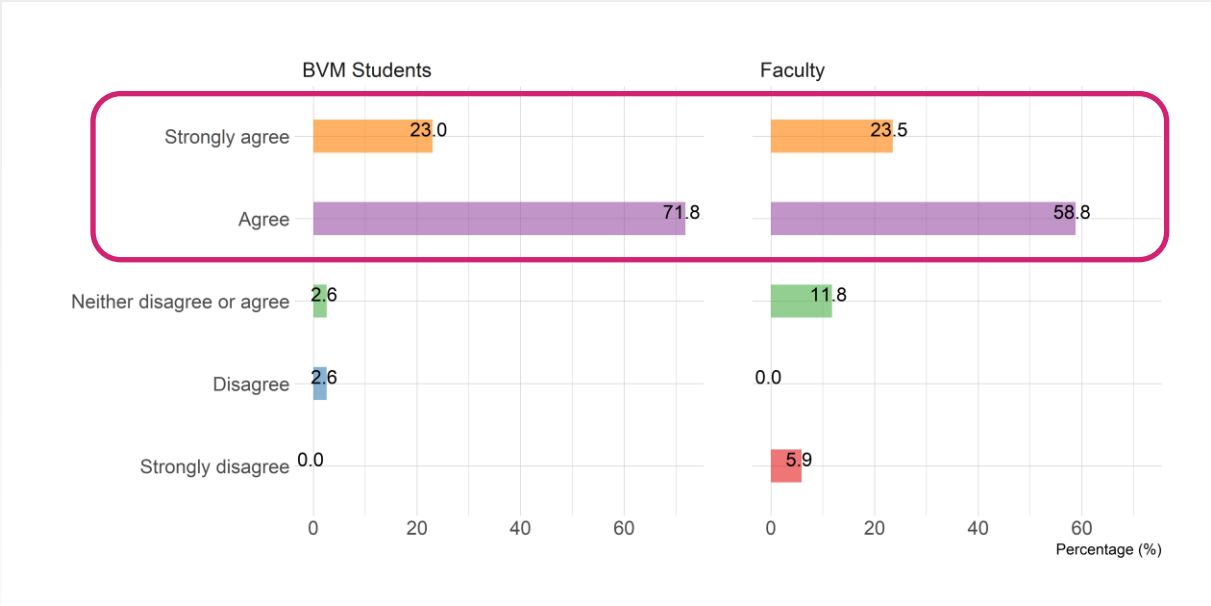


$P\text{-value} = 0.000$

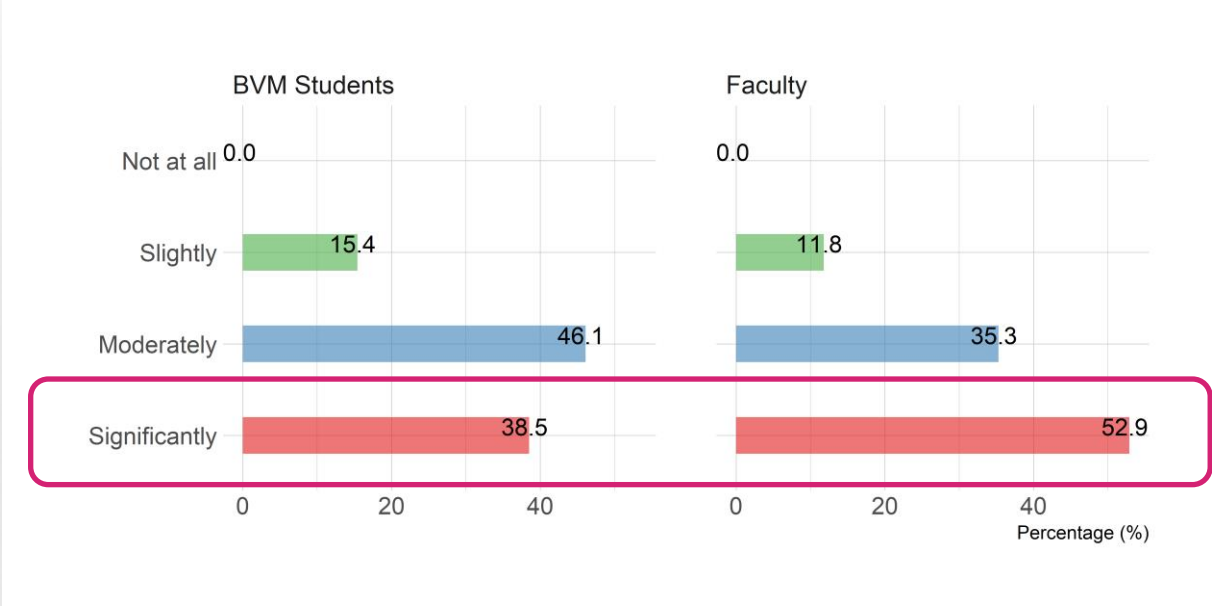
Approximately how many talks/papers have you attended/read that focus on using AI in veterinary teaching/practices?

Results

Section 3: Attitudes toward AI



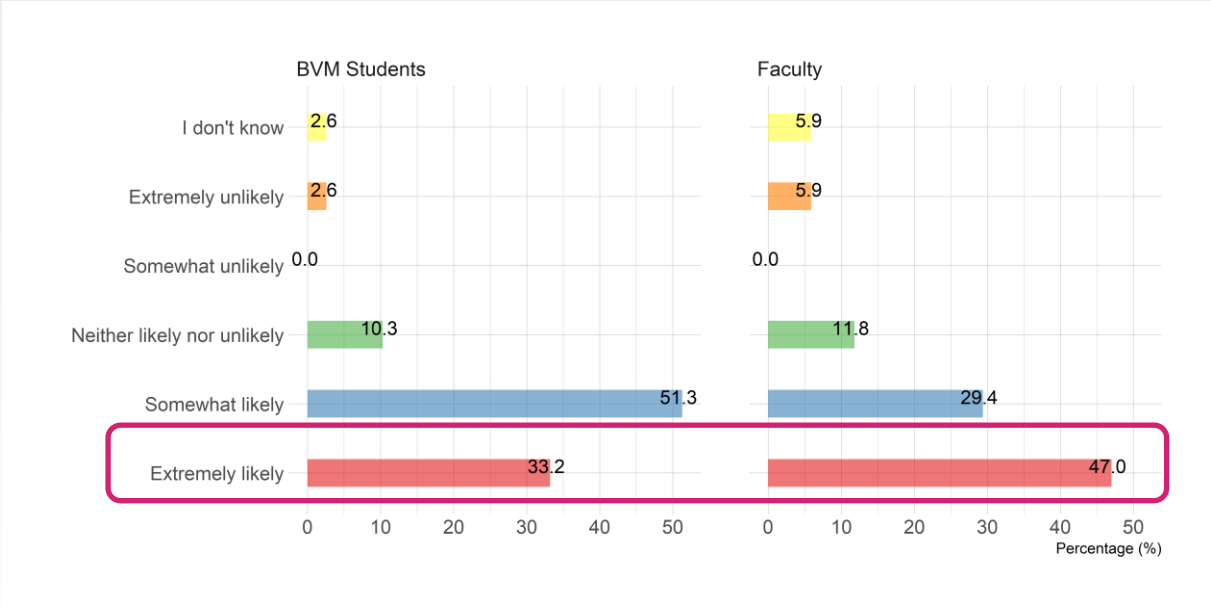
To what extent do you think AI can enhance the veterinary teaching/practice?



Do you think that AI can enhance veterinary teaching/practice?

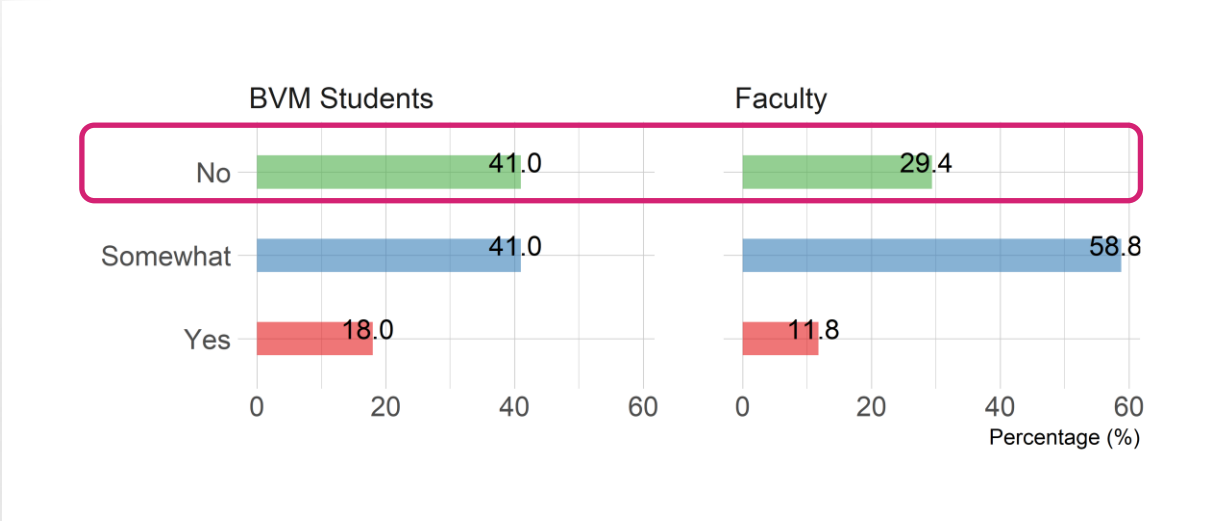
Results

Section 3: Attitudes toward AI



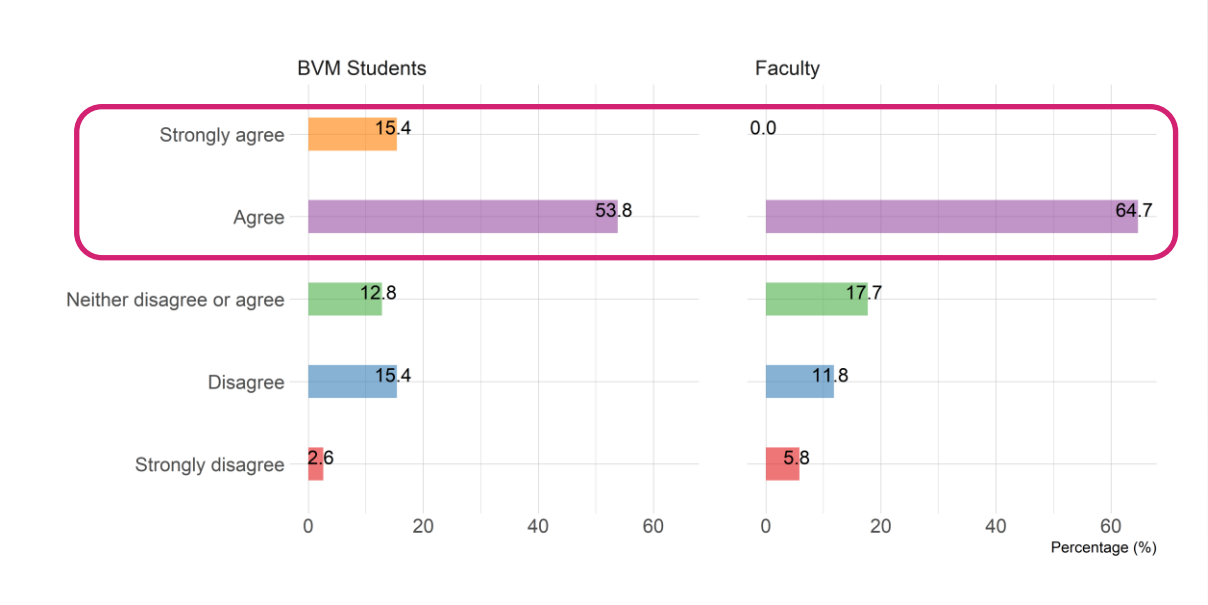
How likely are you to incorporate AI tools into your veterinary teaching/practice in the future?

Do you feel adequately prepared to work alongside AI technologies as current/future veterinarian?

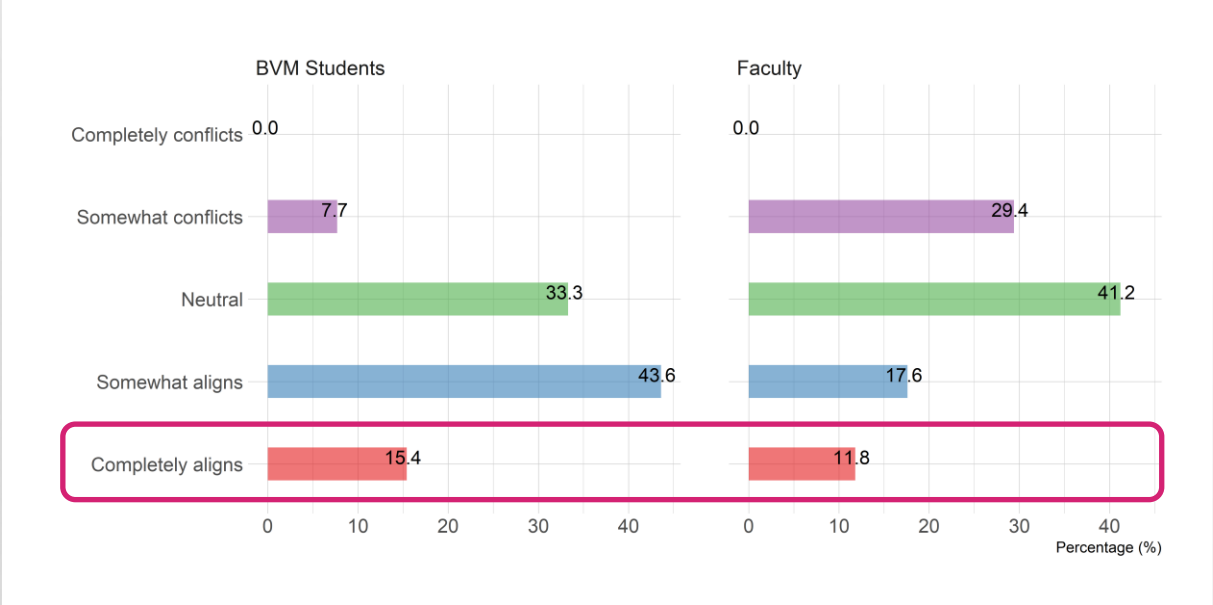


Results

Section 3: Attitudes toward AI



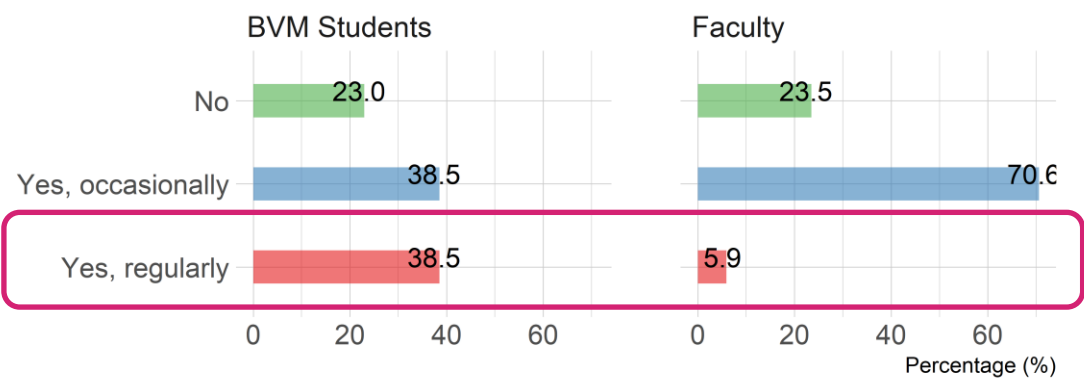
To what extent do you think the use of AI in veterinary medicine aligns with the ethical principles of the profession?



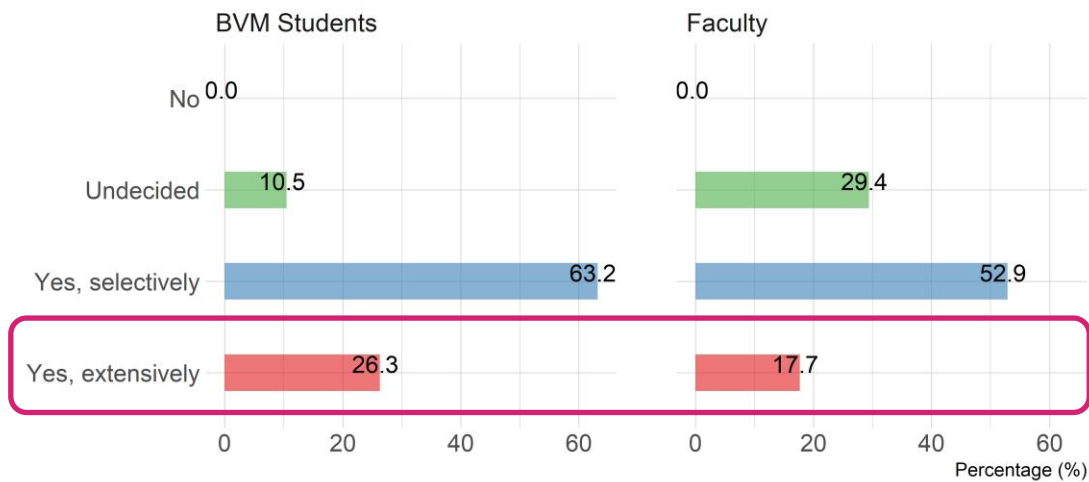
Do you agree that AI technologies could eventually replace certain aspects of traditional veterinary teaching and practice methods?

Results

Section 4: AI Applications in Veterinary Medicine



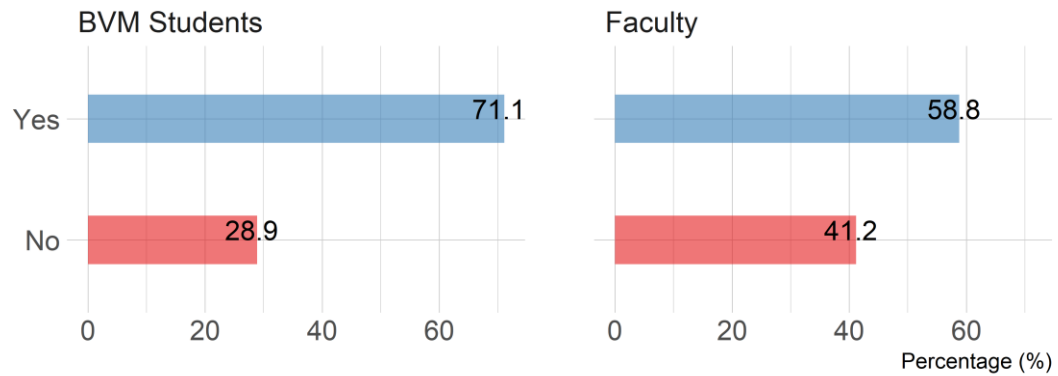
Are you open to integrating AI technologies into your veterinary teaching/practice, and if so, in what capacity?



Have you ever used any AI tools or applications for veterinary-related tasks (learning, research, and practice activities)?

Results

Section 4: AI Applications in Veterinary Medicine

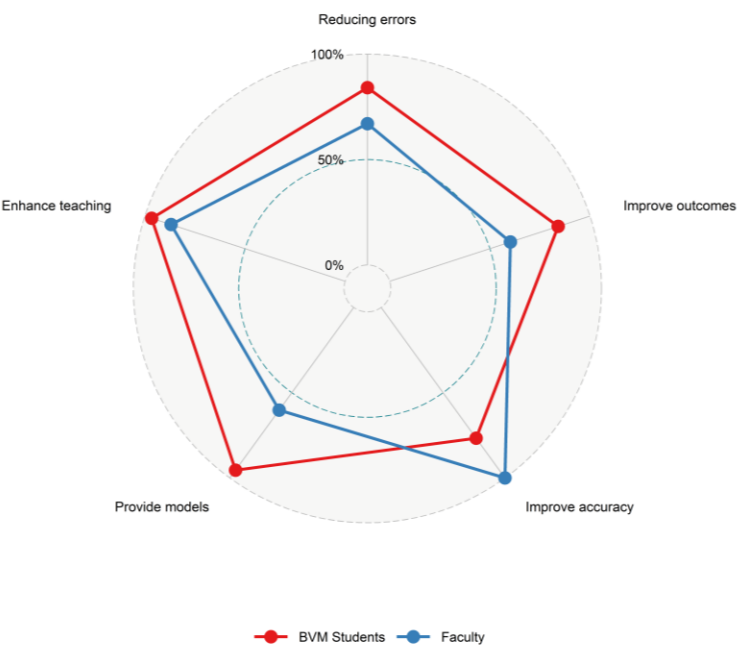
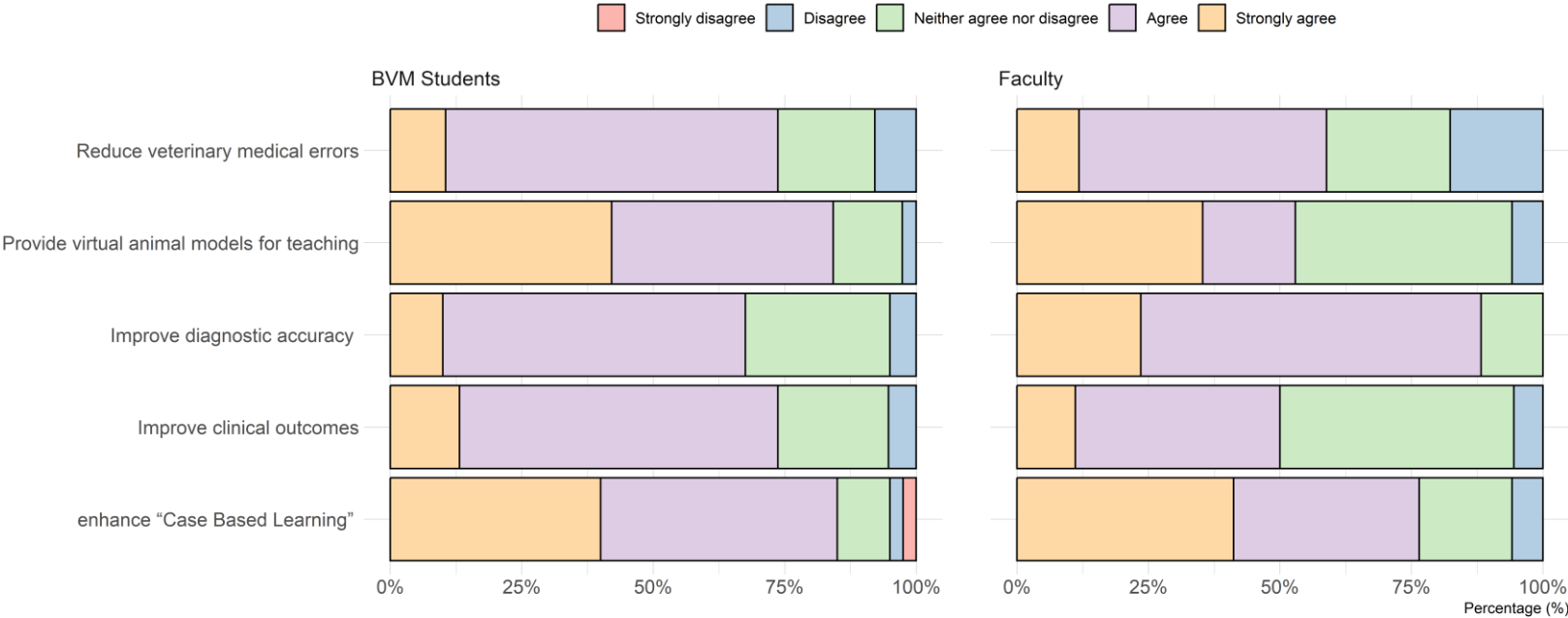


Do you think AI will lead to changes in the roles and responsibilities of veterinarians?

Results

Section 4: AI Applications in Veterinary Medicine

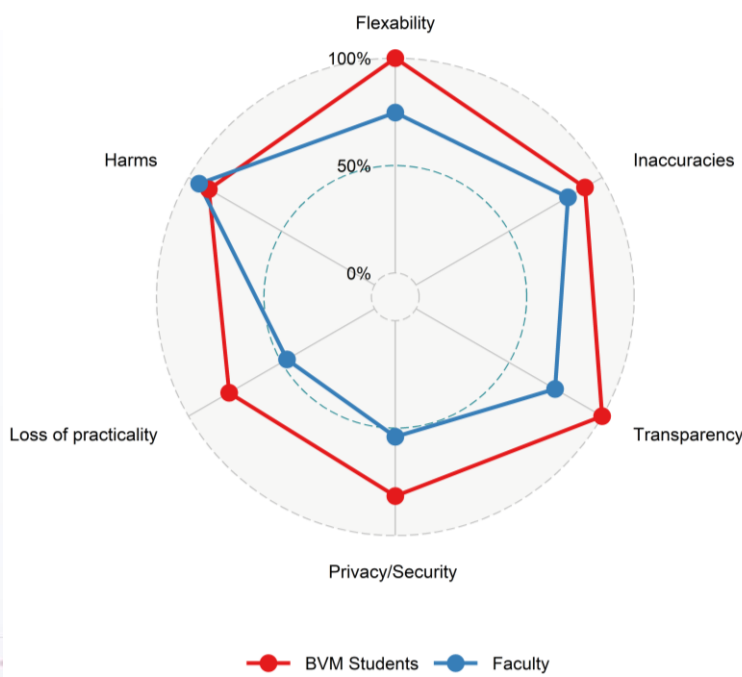
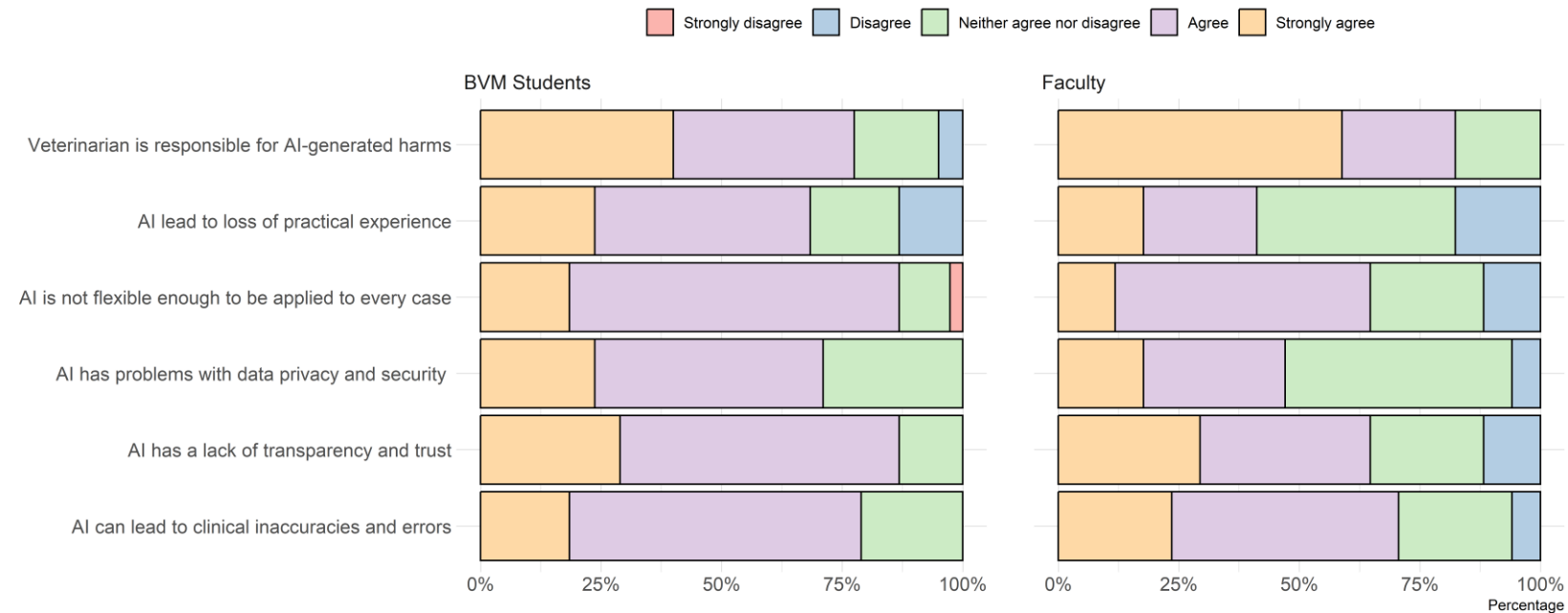
In order to better understand the benefits of using AI in veterinary medicine? Do you agree or disagree that:



Results

Section 4: AI Applications in Veterinary Medicine

In order to better understand problems/concerns regarding the application of AI in veterinary medicine do you agree or disagree that:



Conclusions

CityU BVM students and faculty knowledge and attitude toward AI use in veterinary medicine teaching and practices are comparable:

- ✓ Majority were low to none familiar with AI application in veterinary medicine.
- ✓ Majority did not receive any AI training or education and are highly interested to receive such training.
- ✓ Majority showed positive attitude toward integration of AI in veterinary teaching and practices.

Students

- ✓ The response mode that AI could enhance teaching through providing virtual animal models.
- ✓ However, they agreed that AI need to be flexible and transparent

Faculty

- ✓ The response mode that AI could improve diagnostic accuracy and veterinarians will be responsible about in harms come out from AI use.

Future Directions



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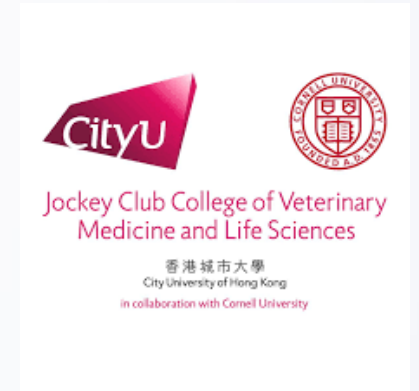
Cityu

Acknowledgements

- CityU BVM/PhD Students
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The Hong Kong Veterinary Association





***Thank
You!***