



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA

**SCHOOL OF COMPUTING**  
Faculty of Engineering

# Project Progress 2

## Assignment 1

SECJ3553 ARTIFICIAL INTELLIGENCE

SEMESTER I, SESSION 2021/2022

**Theme: Face Recognition for Recording Attendance**

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## KNOWLEDGE REPRESENTATION

- 1. IF camera\_sensor = active AND scan\_people = true THEN sleep\_mode is off**  
If the camera sensor is active and can scan people then the sleep mode will be off.  
 $(\text{active}(\text{camera\_sensor}) \wedge \text{true}(\text{scan\_people})) \Rightarrow \text{off}(\text{sleep\_mode})$

camera_sensor	scan_people	sleep_mode	camera_sensor $\wedge$ people	camera_sensor $\wedge$ people $\rightarrow$ sleep_mode
T	T	T	T	T
T	T	F	T	F
T	F	T	F	T
T	F	F	F	T
F	T	T	F	T
F	T	F	F	T
F	F	T	F	T
F	F	F	F	T

**2. IF people = present AND database = match, THEN attendance = attend**

If the people that are scanned from the system are present and the database is matched with the information then the attendance is recorded as attending class.

$\text{present}(\text{people}) \wedge \text{match}(\text{database}) \Rightarrow \text{attend}(\text{attendance})$

people	database	attendance	people $\wedge$ database	people $\wedge$ database $\rightarrow$ attend
T	T	T	T	T
T	T	F	T	F
T	F	T	F	T
T	F	F	F	T
F	T	T	F	T
F	T	F	F	T
F	F	T	F	T
F	F	F	F	T

**3. IF the power\_supply = inactive, THEN switch is off**

If the power supply is inactive then the switch is off.

$\text{inactive}(\text{power\_supply}) \Rightarrow \text{off}(\text{switch})$

power_supply	switch	power_supply $\leftrightarrow$ switch
T	T	T
T	F	F
F	T	T
F	F	T

**4. IF get\_FaceRecognition = TRUE, THEN indicator = GREEN**

If the system is able to recognise the face of the person then the indicator will show green.

$\text{TRUE}(\text{get\_FaceRecognition}) \Rightarrow \text{Green}(\text{indicator})$

<b>get_FaceRecognition</b>	<b>indicator</b>	<b>get_FaceRecognition→indicator</b>
T	T	T
T	F	F
F	T	T
F	F	T

**5. IF attendance = attended, THEN the display\_attendance = SUCCESS**

If the attendance of the student is recorded then the system will display the successful message.

$\text{attended}(\text{attendance}) \Rightarrow \text{SUCCESS}(\text{display\_attendance})$

<b>attendance</b>	<b>display_attendance</b>	<b>Attendance→display_attendance</b>
T	T	T
T	F	F
F	T	T
F	F	T