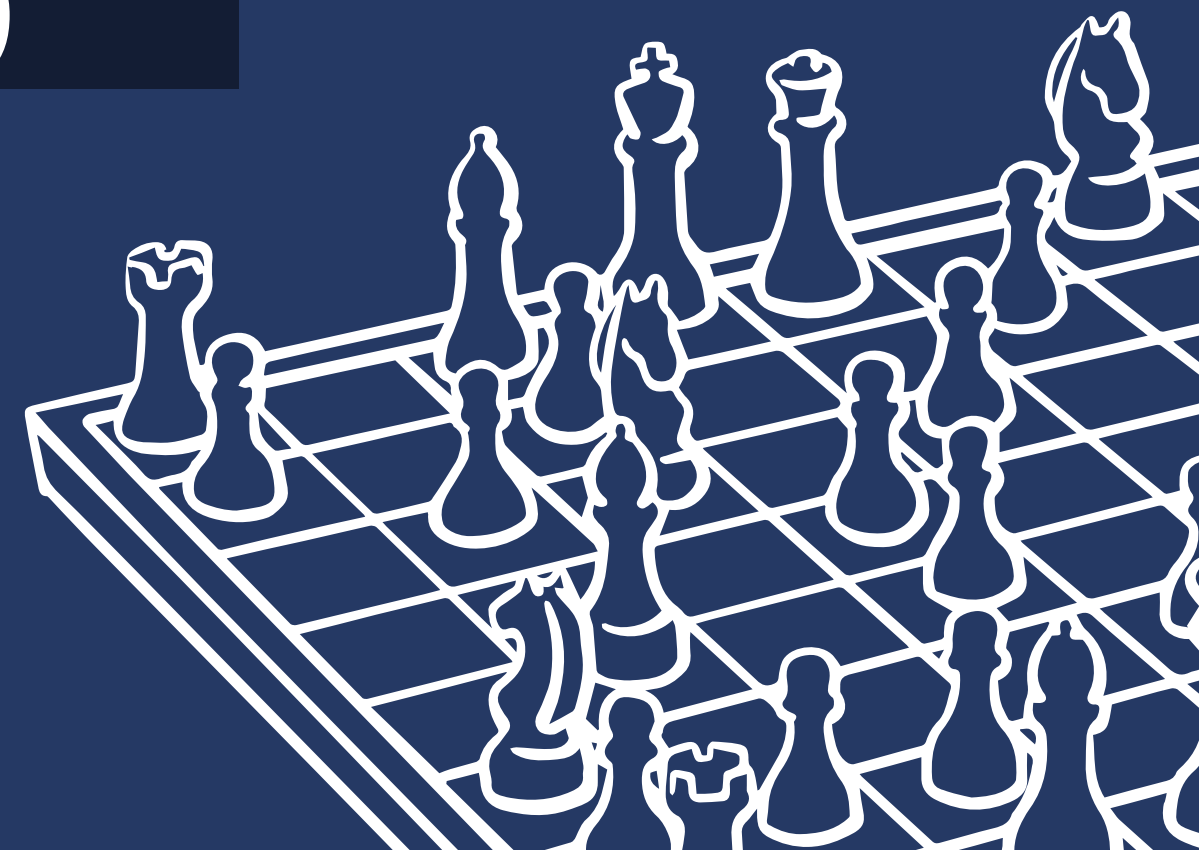


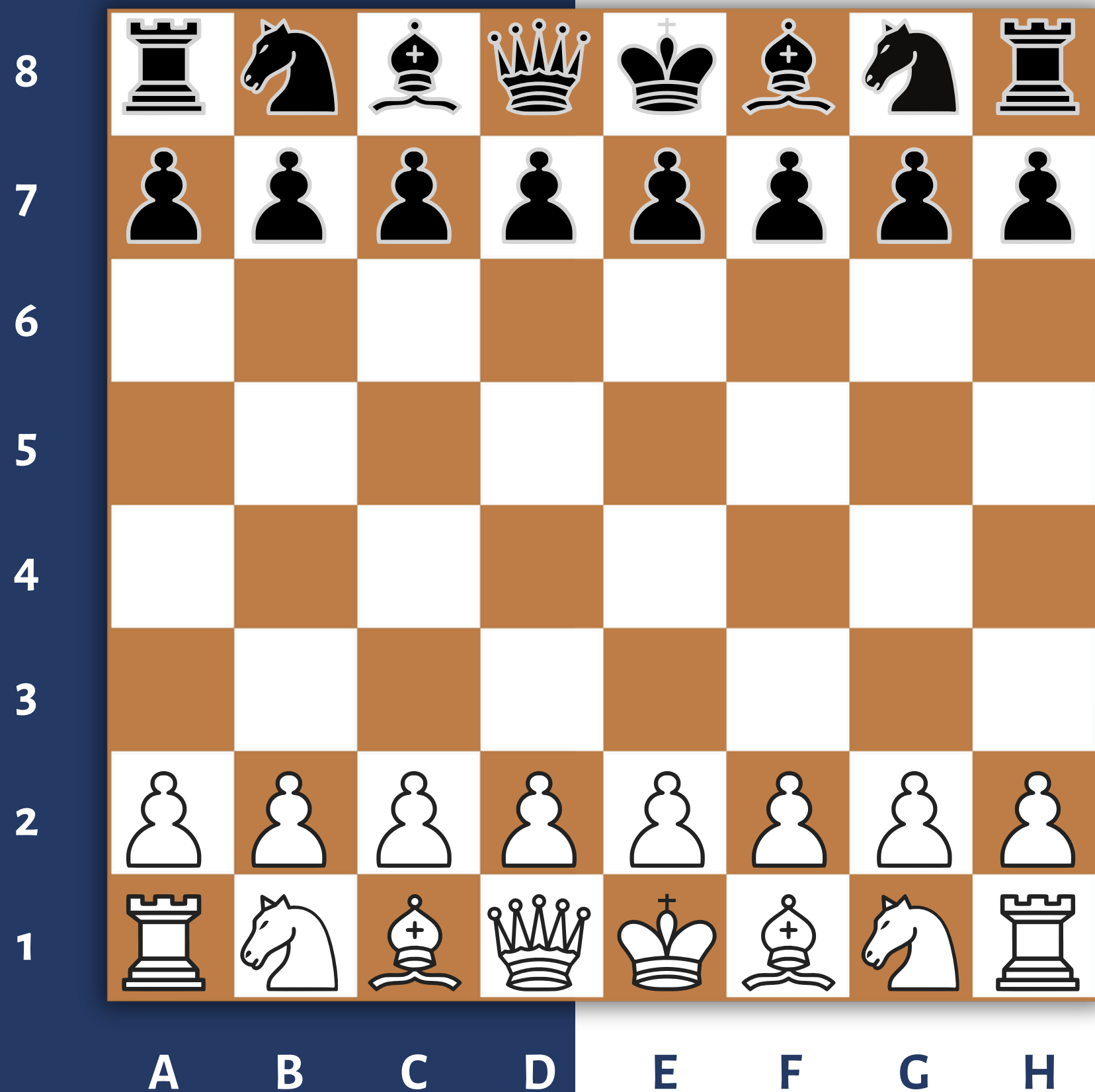
KING'S GUARD

**MOHAMMAD AKER
YOUSEF ABDULSALAM**

SUPERVISED BY:

DR. ANAS TOMA



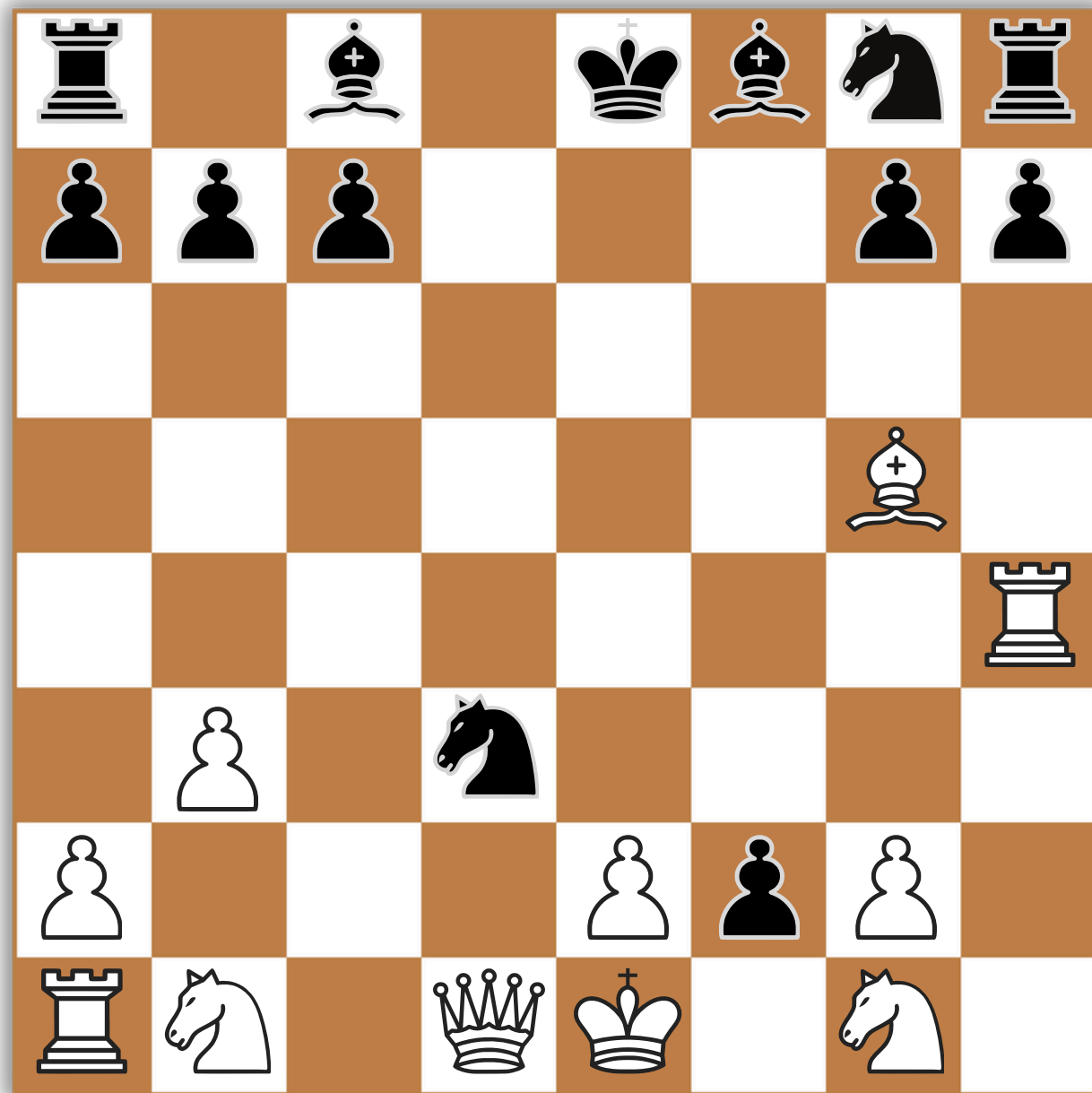


A Game of Chess

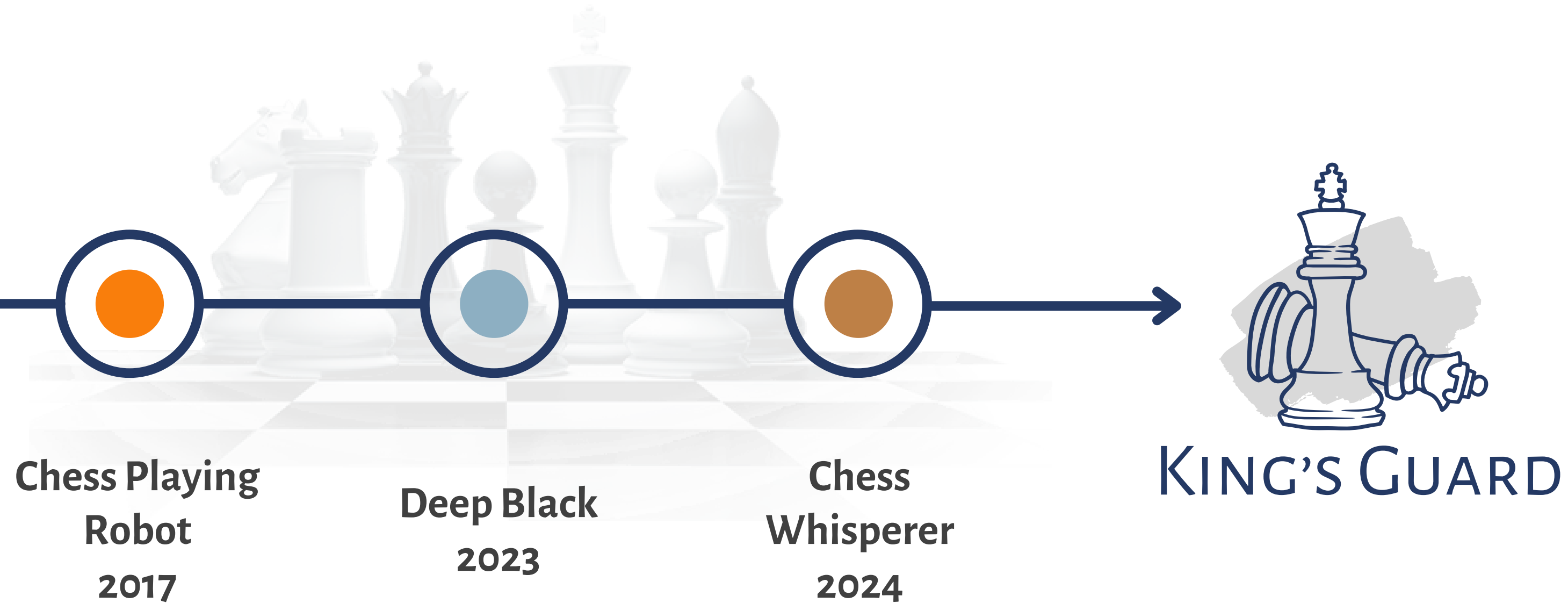
Chess is an abstract strategy game that involves no hidden information and no elements of chance. It is played on a chessboard with 64 squares arranged in an 8×8 grid.

A SIGNIFICANT RULE

PAWN PROMOTION



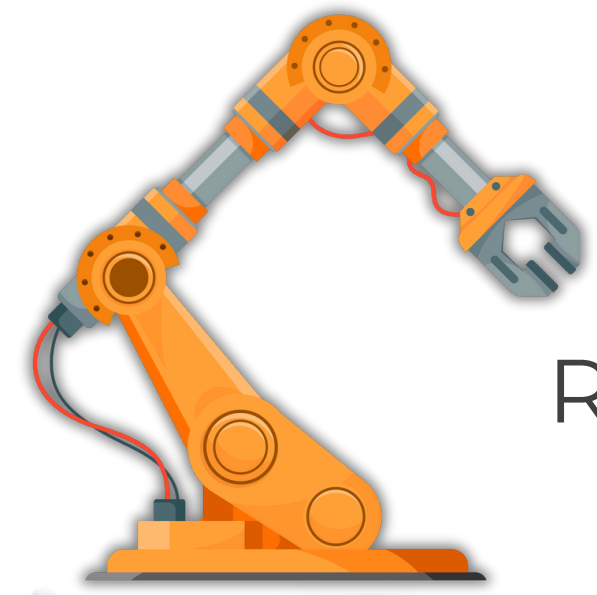
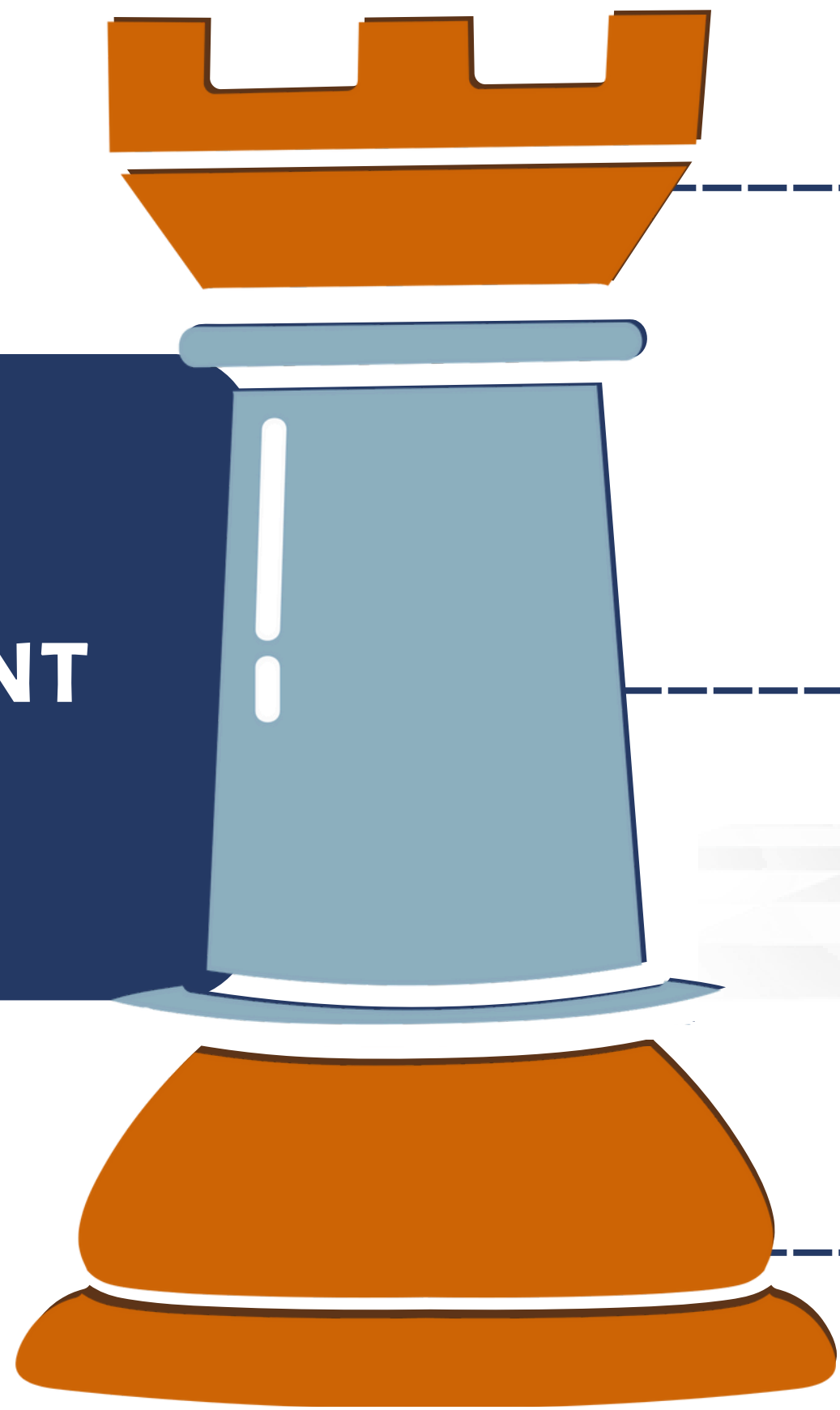
HISTORY AND PREVIOUS ATTEMPTS





KING'S GUARD

OUR ACHIEVEMENT



Robotic Arm



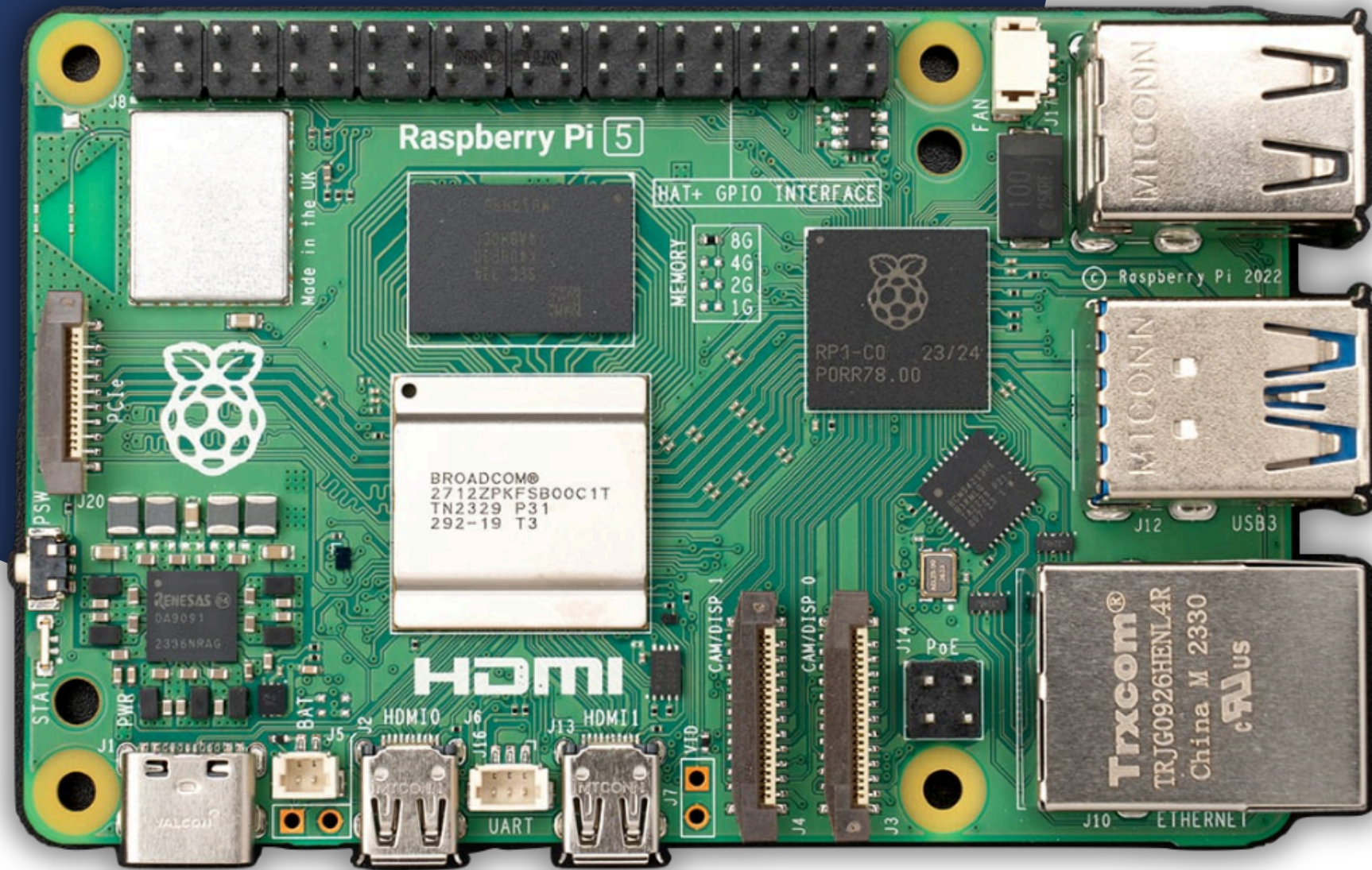
Model



Stockfish

- •
- • •
- • • •

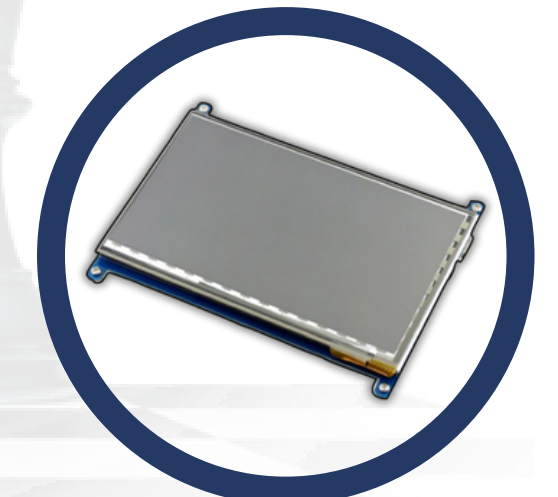
CONNECTED To:



Raspberry pi 5



Luxonis OAK-D camera



Touch Screen



Microphone



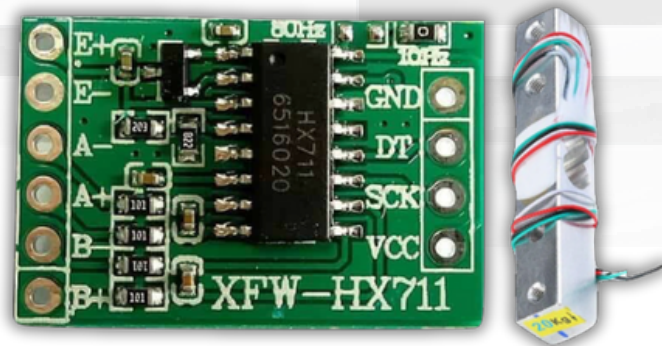
CONNECTED To:



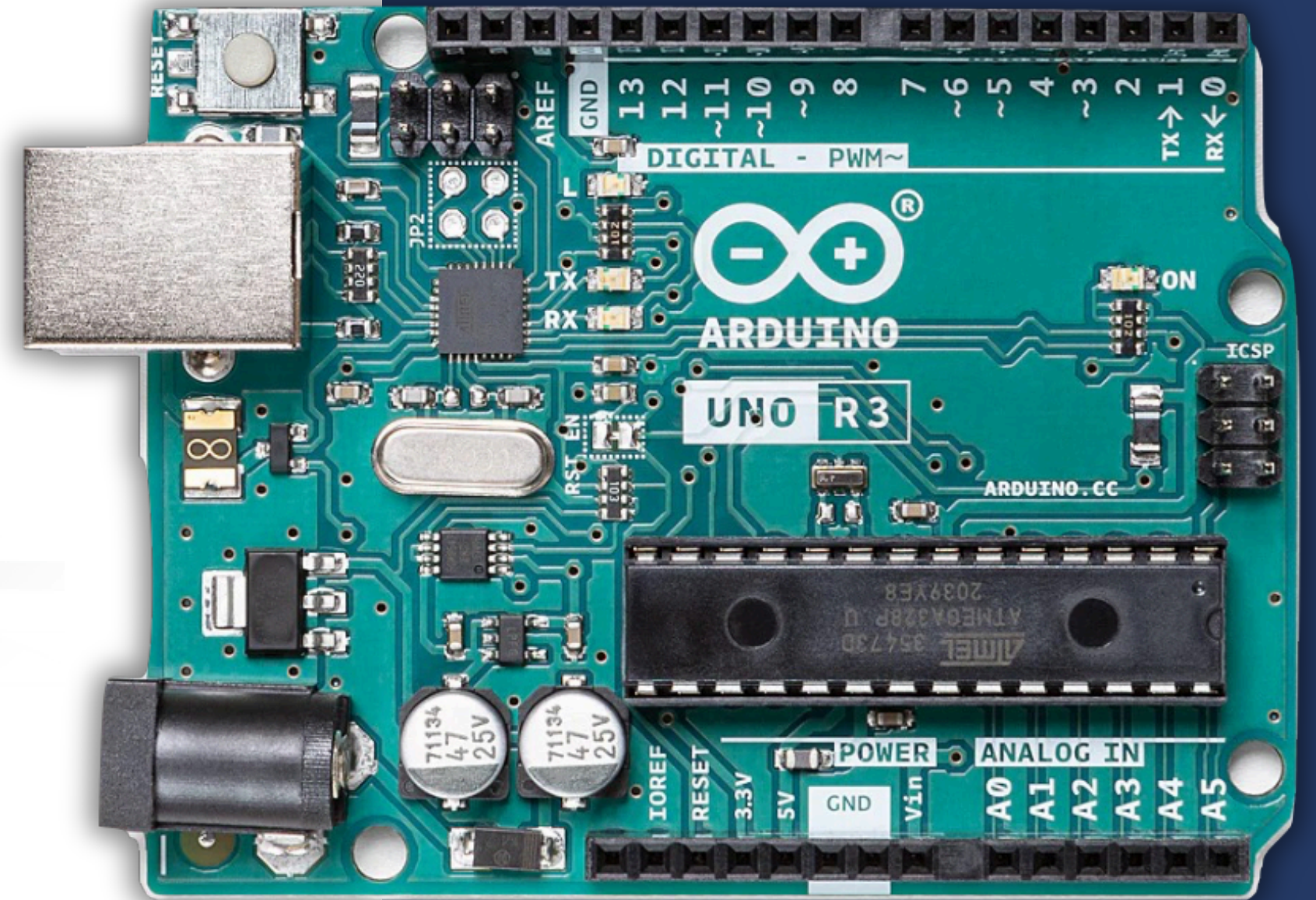
Ultrasonic Sensors



PIR Motion Sensor



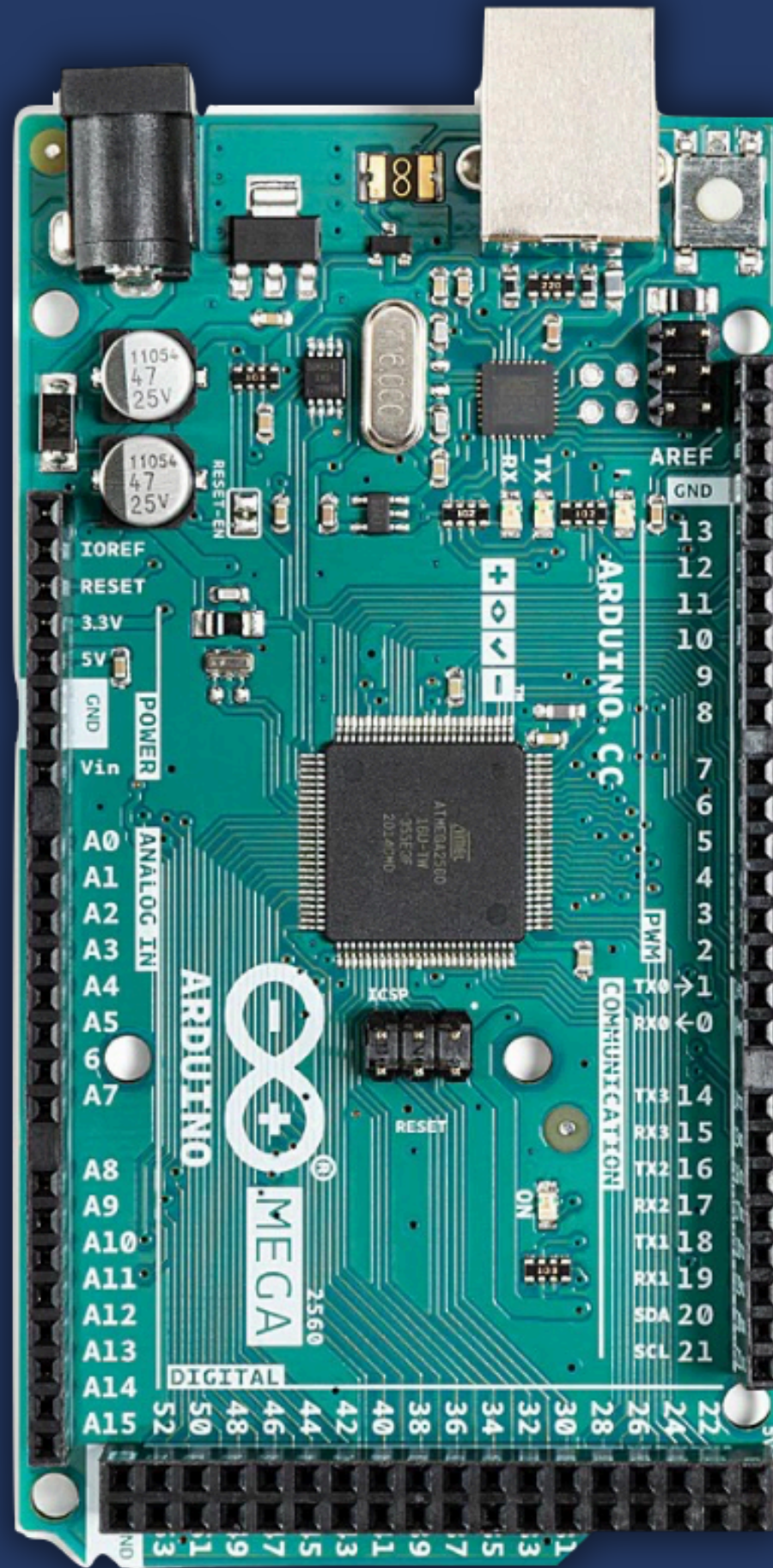
Load Cell and
HX711 ADC



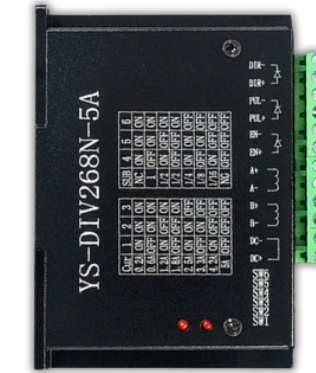
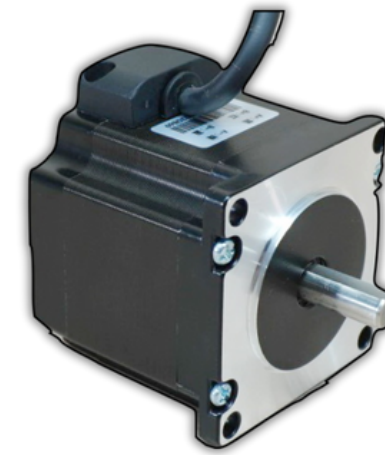
Arduino Uno



Arduino Mega



STEPPERS



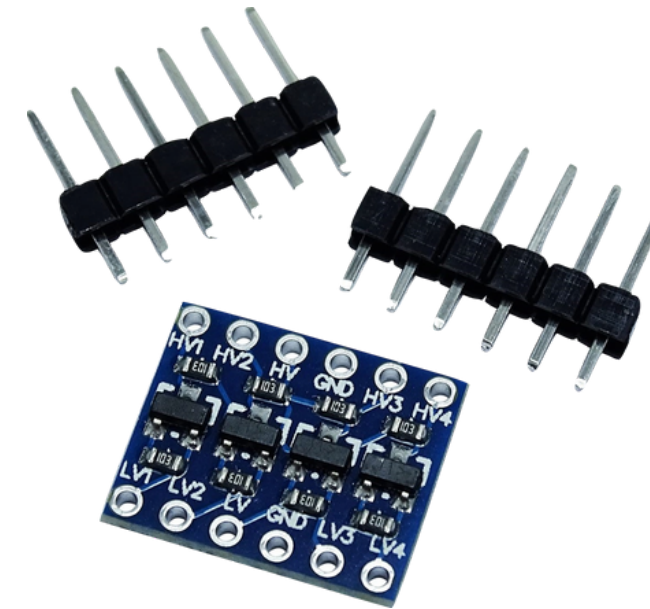
SERVOS



ADDITIONAL HARDWARE



Power Supply


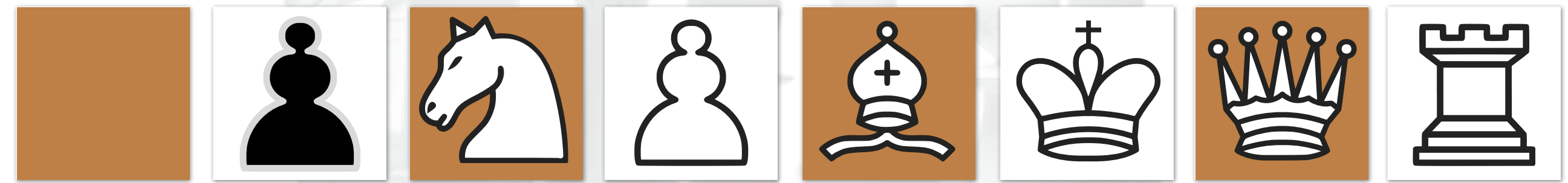


4 Channel I2C Logic
Level Shifter
Converter



OBJECT DETECTION MODEL

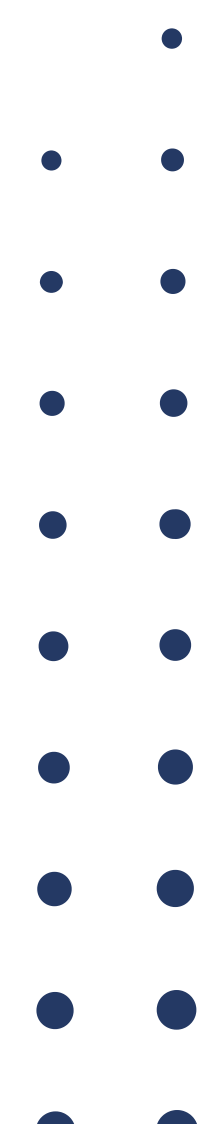
8 CLASSES



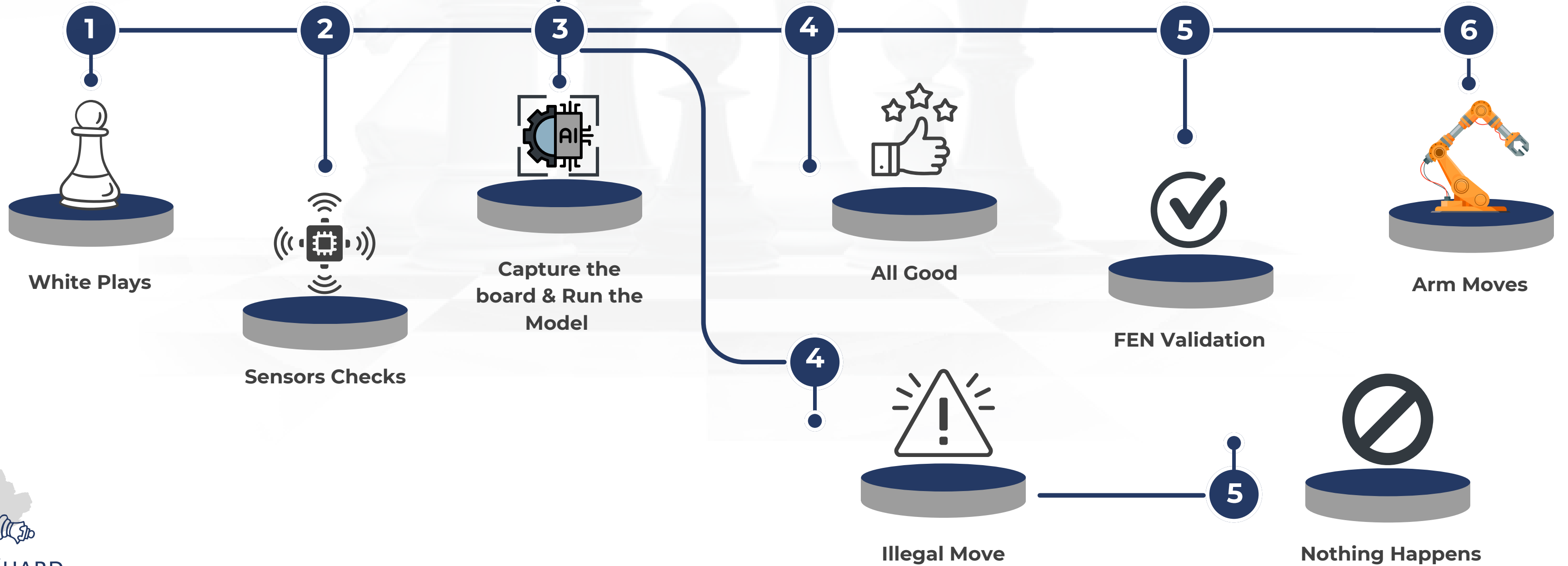
Ultraalytics

7500

Photos



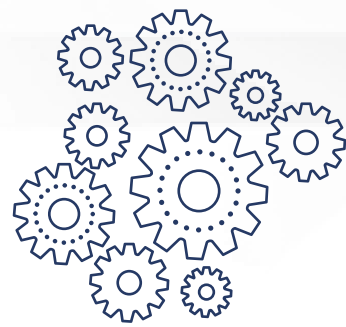
SYSTEM FUNCTIONALITY





KING'S GUARD

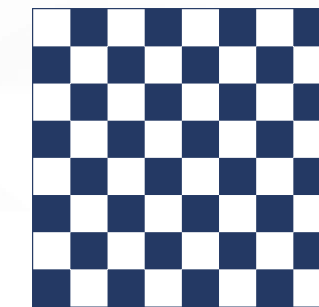
ARM FUNCTIONALITY



The Structure



The Connection



The 8 x 8 Mapping

CONSTRAINTS

- Mechanical limitations
- Lighting and surrounding
- Processing power



GUARDING FROM THE FUTURE



System customizable-friendly



Less delay time



Set difficulty

Develop App



Game analytics



Special materials



THANK YOU!

NOW IT'S YOUR MOVE!

Feel free to ask any questions you have.



KING'S GUARD