Overall performance of the AI bird recognition tool:

- Accuracy: 85%
- Error rate: 15%

Overall performance of the autonomous driving mode:

*Measured using average distance driven between disengagements**

- Under **normal** road condition: 40 km
- During the **night**: 5 km
- On **rainy** days: 3 km
- On **snowy** days: 1 km

* Disengagement means when the automated system is switched off by the intervention of a human driver

The performance of the AI tool to predict diabetes risk

- Mean prediction error: ± 15%
- Max prediction error: ± 30%
- The AI tool can explain 75% of the variation in the training data

The performance of the AI house precdiction tool

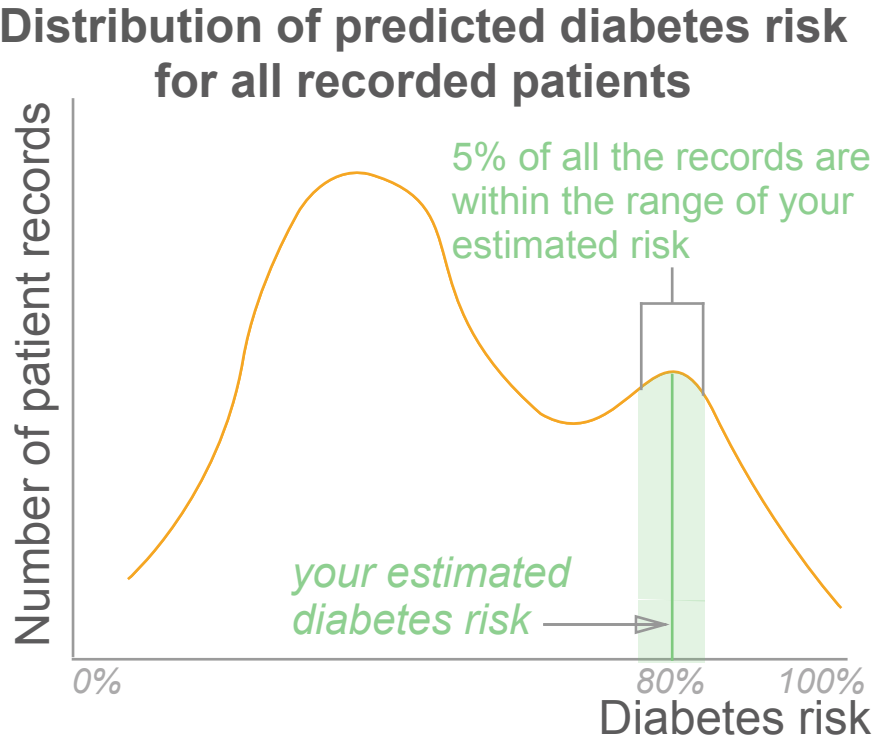
- Mean prediction error: ± 50,000
- Max prediction error: ± 120,000
- The AI tool can explain 95% of the variation in the training data

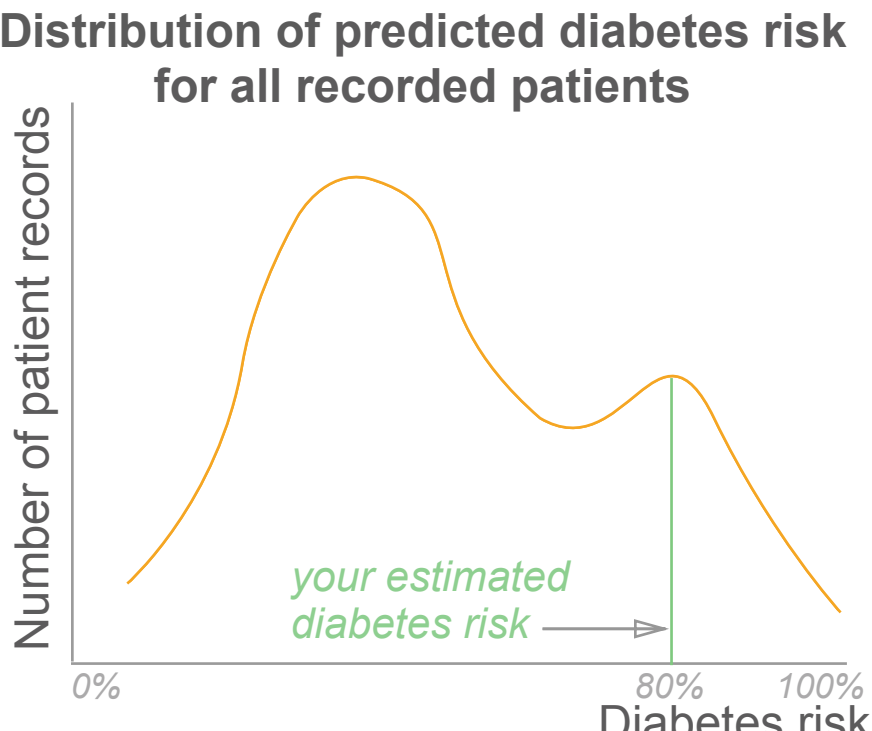
The three most likely bird according to your uploaded image, and **their percentage in the training dataset** where the AI learns from

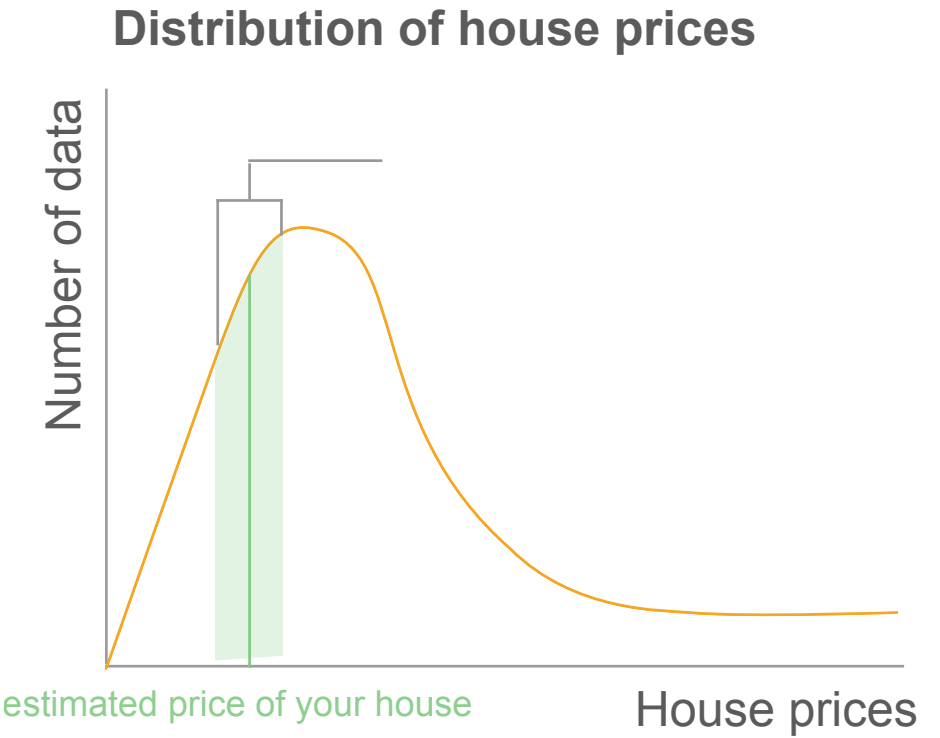
	Likelihood	*Precentage*	
Indigo Bunting	95%	1.5%	
Blue Grosbeak	70%	1.2%	
Lazuli Bunting	55%	1.3%	

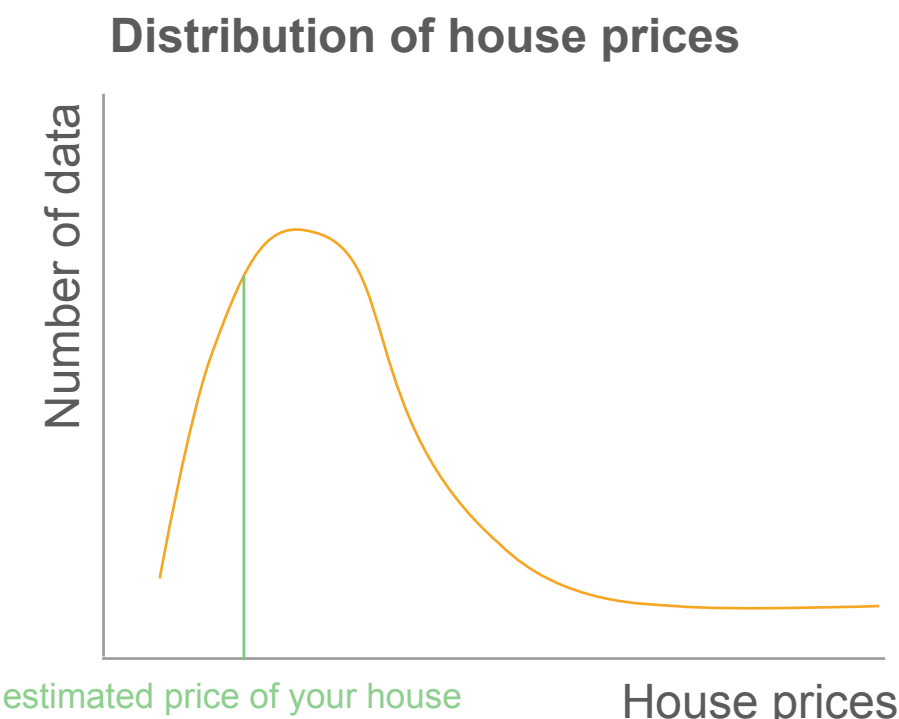
The current driving decisions, and **their percentage in the training dataset** where the self-driving car learns from

	Confidence	*Precentage*	
Keep straight	95%	25%	
Keep current speed	95%	34%	
Right lane change	55%	2.9%	


Distribution of predicted diabetes risk for all recorded patients
Number of patient records
5% of all the records are within the range of your estimated risk
your estimated diabetes risk
0%
80%
100%
Diabetes risk


Distribution of predicted diabetes risk for all recorded patients
Number of patient records
your estimated diabetes risk
0%
80%
100%
Diabetes risk


Distribution of house prices
Number of data
estimated price of your house
House prices


Distribution of house prices
Number of data
estimated price of your house
House prices

The current decisions, and **their percentage in the training dataset** where the AI learns from

	Confidence	*Precentage*	
Decision 1	95%	25%	
Decision 2	95%	34%	
Decision 3	55%	2.9%	

Overall performance of the AI :

- Accuracy: 85%
- Error rate: 15%

The image you uploaded:

Current traffic view:

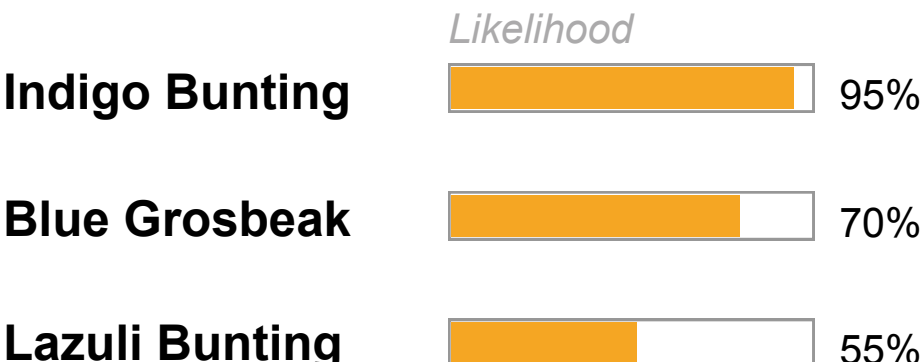
The data from your health records used for prediction:

- Male, 33 years old
- Three consecutive blood sugar level: normal, normal, higher than normal
- Body weight: 75 kg, height 175 cm
- Calories intake per day: 3200
- Minutes of exercise per week: 50 min
- Family history of diabetes: ……
- .....

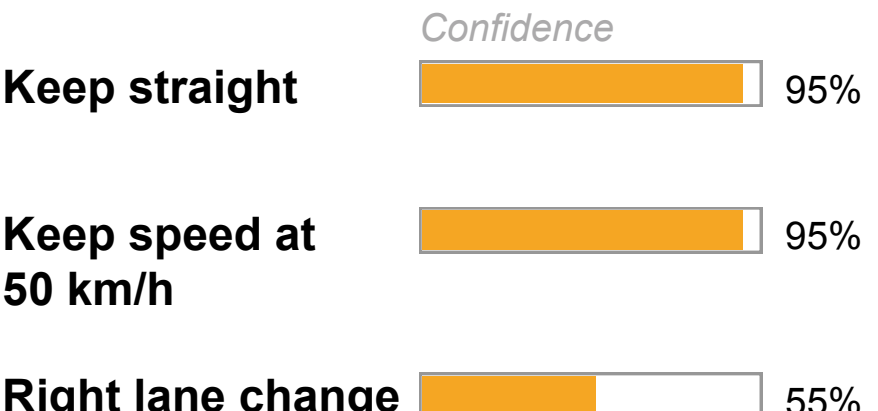
The features of your own house

- 2 bedrooms
- 1 bathroom
- 780 sq
- 20 years old
- household appliances for 10 years
- distance to school, parks: 2 km

The image you uploaded is recognized as:



Driving decisions under the current traffic:



Your chance of getting diabetes within the next year is:

80 %

Your chance of getting diabetes within the next year is:

80 %

with a certainty of 90%

75 ~ 85%

with a certainty of 95%

Predicted price of your own house

$ 650,000

Predicted price of your own house

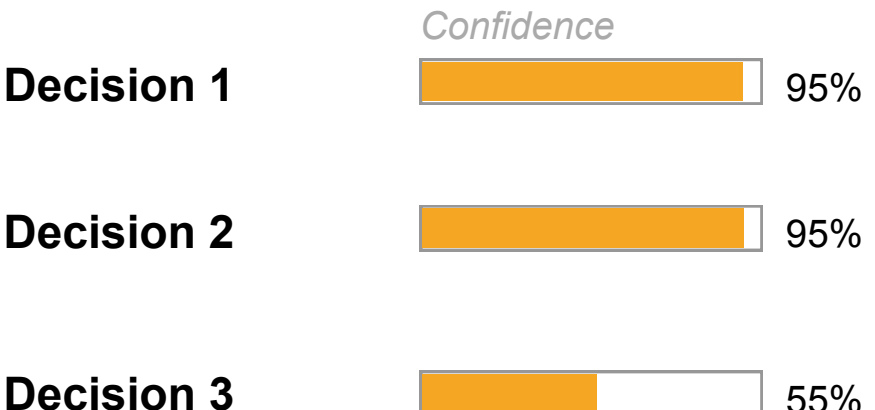
$ 650,000

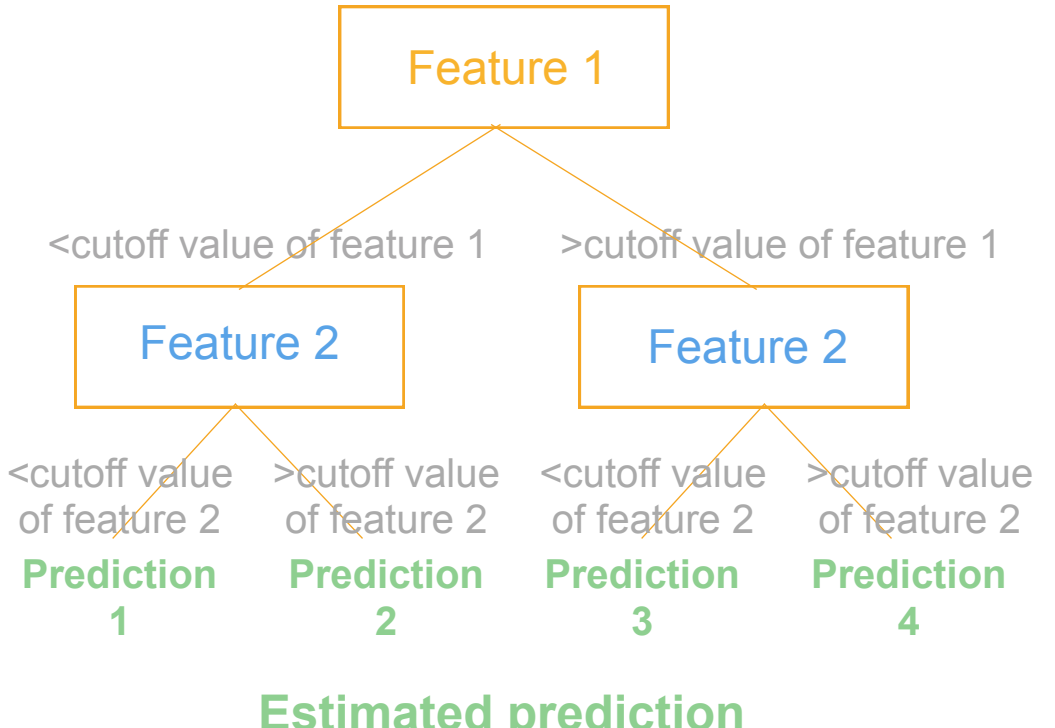
with certainty of 90%

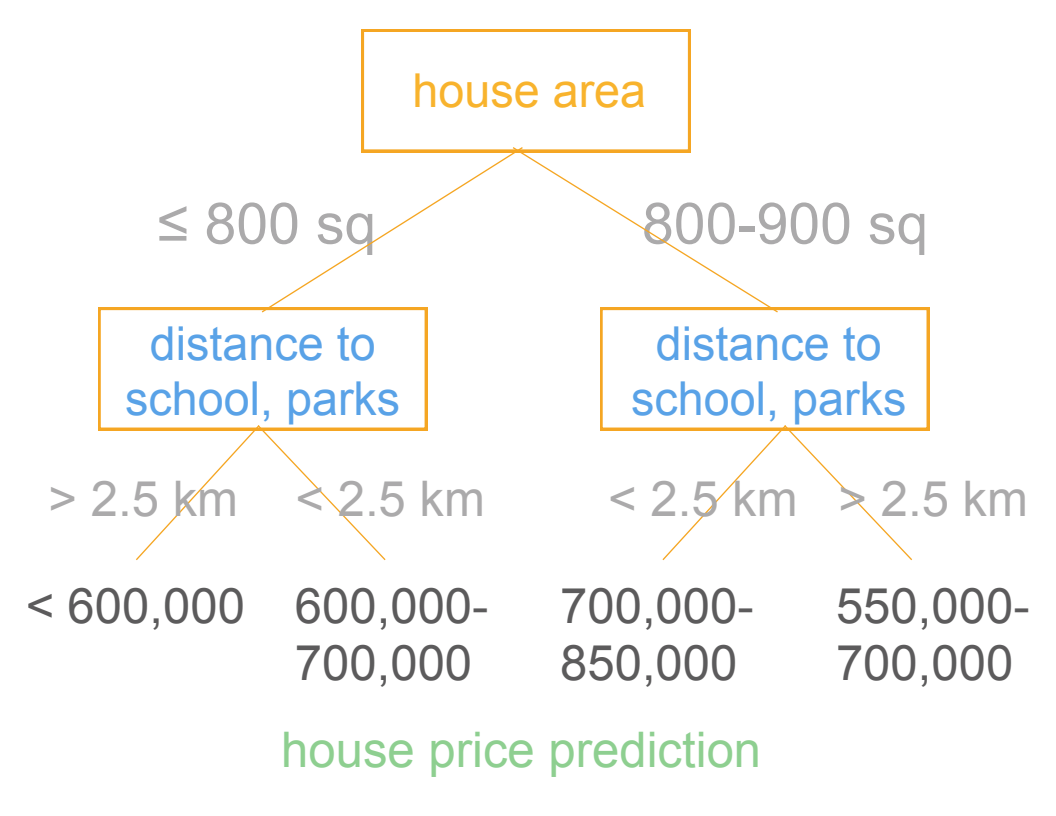
$ 638 ~ 662,000

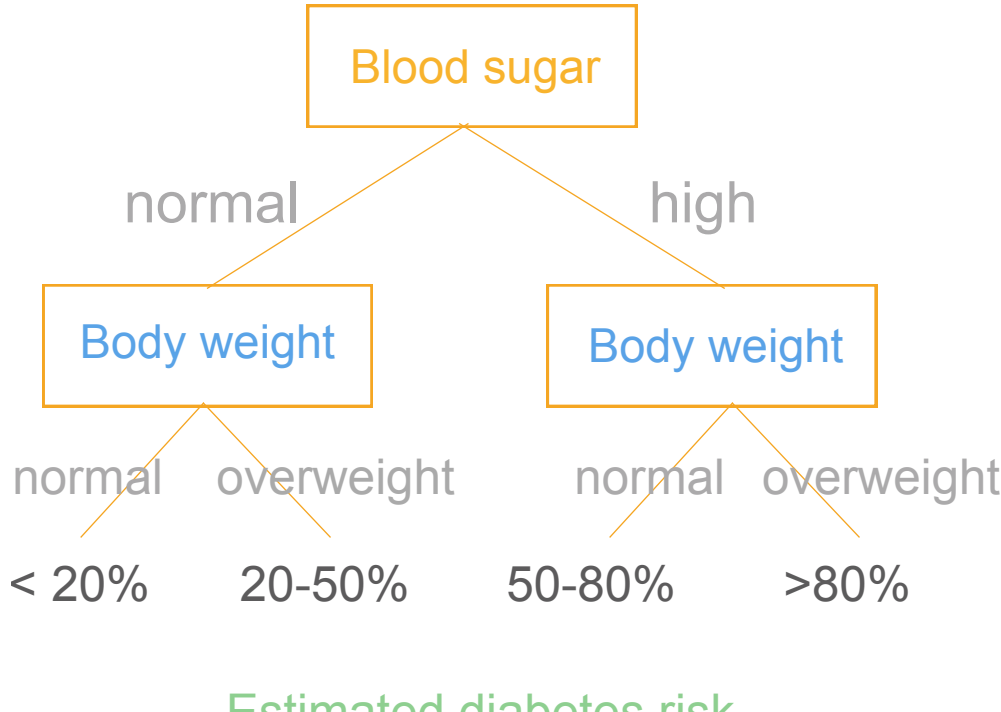
with certainty of 95%

AI's Decisions:




Feature 1
<cutoff value of feature 1
>cutoff value of feature 1
Feature 2
Feature 2
<cutoff value of feature 2
>cutoff value of feature 2
<cutoff value of feature 2
>cutoff value of feature 2
Prediction 1
Prediction 2
Prediction 3
Prediction 4
Estimated prediction


house area
≤ 800 sq
800-900 sq
distance to school, parks
distance to school, parks
> 2.5 km
< 2.5 km
< 2.5 km
> 2.5 km
< 600,000
600,000-700,000
700,000-850,000
550,000-700,000
house price prediction

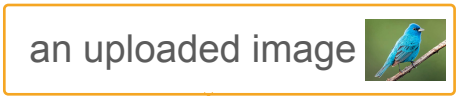

Blood sugar
normal
high
Body weight
Body weight
normal
overweight
normal
overweight
< 20%
20-50%
50-80%
>80%
Estimated diabetes risk

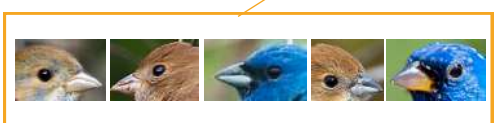
Slow down and stop

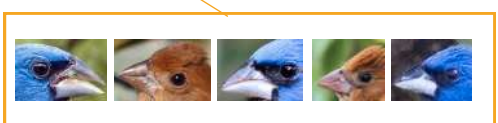
Slow down to 30 km/h

Keep speed at 50km/h

Slow down to 40km/h





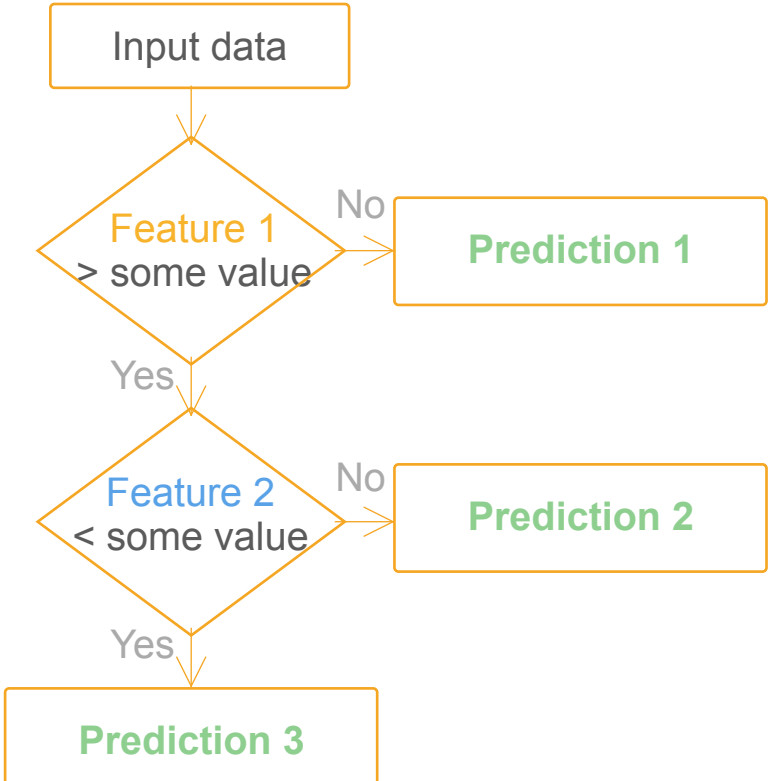


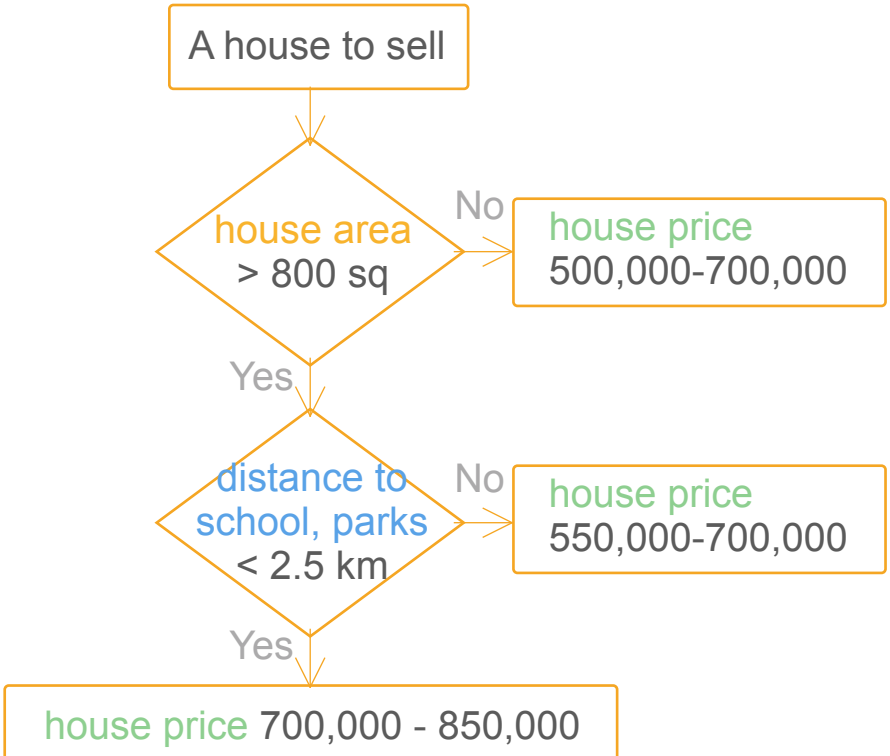
Indigo Bunting, male

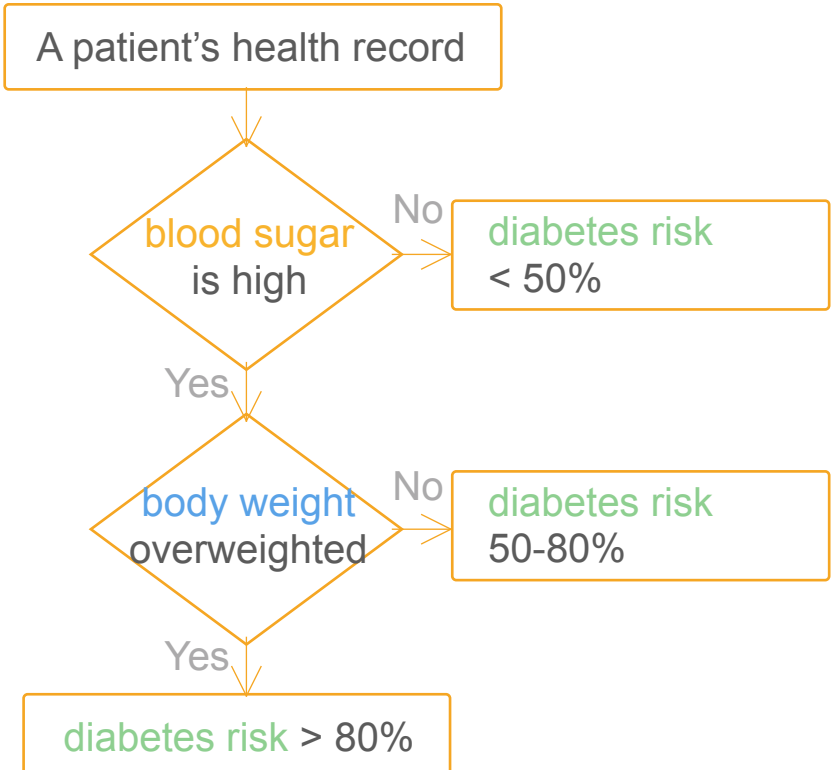
Indigo Bunting, female

Blue Grosbeak, male

Blue Grosbeak, female

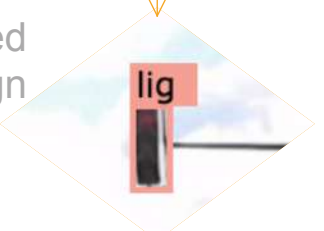

Input data
Feature 1
> some value
No
Prediction 1
Yes
Feature 2
< some value
No
Prediction 2
Yes
Prediction 3


A house to sell
house area
> 800 sq
No
house price
500,000-700,000
Yes
distance to
school, parks
< 2.5 km
No
house price
550,000-700,000
Yes
house price 700,000 - 850,000

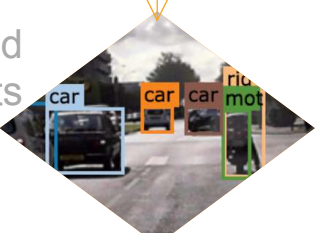

A patient's health record
blood sugar
is high
No
diabetes risk
< 50%
Yes
body weight
overweighted
No
diabetes risk
50-80%
Yes
diabetes risk > 80%

current traffic view

detected
traffic sign



detected
traffic objects



reach driving decisions

an uploaded image 

looks at head 

looks at belly 

reach a conclusion on the bird species

If **feature 1** ≤ some value,
and **feature 2** > some value,
Then the prediction **is some value**

If **house area** is some value,
and **distance to school, parks** < some value,
Then the prediction **is another value**

	house area	distance to school, parks	house price prediction
Rule 1	≤ 800 sq	> 2.5 km	< 600,000
Rule 2	≤ 800 sq	< 2.5 km	600,000-700,000
Rule 3	800-900 sq	< 2.5 km	700,000-850,000

If **house area** ≤ 800 sq,
and **distance to school, parks** > 2.5 km,
Then house price **is no more than**
600,000

If **house area** is 800 - 900 sq,
and **distance to school, parks** < 2.5 km,
Then house price **is about**
700,000-850,000

	blood sugar	body weight	diabetes risk
Rule 1	high	high	> 80%
Rule 2	high	normal	50-80%
Rule 3	normal	normal	< 20%

If **blood sugar** is **high**,
and **body weight** is **overweighted**,
Then the estimated diabetes risk
is above 80%

If **blood sugar** is **normal**,
and **body weight** is **overweighted**,
Then the estimated diabetes risk
is about 20-50%

If **traffic sign** is **stop sign**,
or the speed of the **car in front** are **slower**,
Then the speed decision is to
slow down and stop

If **traffic sign** is **50km/h speed limit**,
and the speed of the **car in front** are the **same or faster**,
Then the speed is kept at
50km/h

If **bird bill** is **small and thin**,
and **wings and tails** are **short**,
Then the bird is recognized as
Indigo Bunting

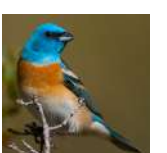
If **bird bill** is **big and thick**,
and **wings and tails** are **long**,
Then the bird is recognized as
Blue Grosbeaks

The three most likely bird according to your uploaded image, and **typical examples**

Indigo Bunting
95%

Blue Grosbeak
70%

Lazuli Bunting
55%



Typical traffic conditions to reach the self-driving car's current decison:

Keep straight
95%

Keep current speed
70%

Right lane change
55%

A **typical** case of the same diabetes risk as yours (80%) is like:

- Male, 45 years old
- Three consecutive blood sugar level: normal, normal, higher than normal
- Body weight: 78 kg, height 175 cm
- Calories intake per day: 3000
- Minutes of exercise per week: 30 min
- Family history of diabetes: ……
- .....

The houses of **similar *price*** as yours

Bird A highlight different regions Bird B

Bird A >> progressive transition >> Bird B

If your health data had changed to the following, your diabetes risk would have decreased by 20%:

- 3 years younger than now
- Body weight: loss 5 kg
- Increase 50 min of weekly exercise
- Reduce 500 calories of daily calories intake
- ……

If the feature of your house had changed to the following feature,
your house would have increased 10% of the estimated value

- have a back yard, or
- 3 bathrooms, or
- 1200 sq, or
- less than 10 years old, or
- has new household appliances
- ……

If one of your input features had changed to the following value, your predicted outcome would have increased by 20%:

- Feature 1 changed to some value
- Feature 2 changed to some value
- Feature 3 changed to some value
- Feature 4 changed to some value
- Feature 5 changed to some value
- Feature 6 changed to some value
- ……

A ***typical example*** of the same prediction as yours (prediction value) is like:

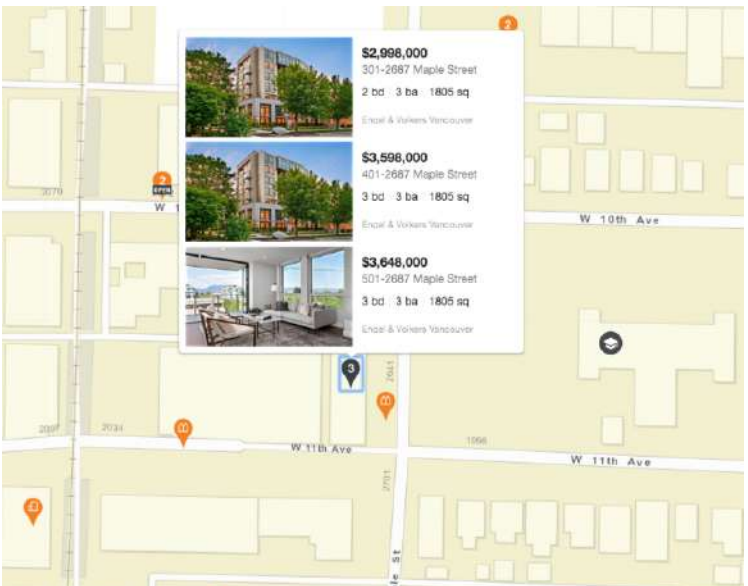
- Feature 1
- Feature 2
- Feature 3
- Feature 4
- Feature 5
- Feature 6

A ***similar example*** as your input is like:

- Feature 1
- Feature 2
- Feature 3
- Feature 4
- Feature 5
- Feature 6

- **Prediction:**

The houses of **similar *features*** as yours



A **similar *case*** as yours is like:

- Male, 35 years old
- Three consecutive blood sugar level: normal, normal, higher than normal
- Body weight: 81 kg, height 183 cm
- Calories intake per day: 3400
- Minutes of exercise per week: 60 min
- Family history of diabetes: ……
- **Diabetes risk: 82%**

Similar traffic conditions as the current one, from the dataset to train the self-driving car:






Similar images to the one you uploaded:

Indigo Bunting
95%

Indigo Bunting
95%

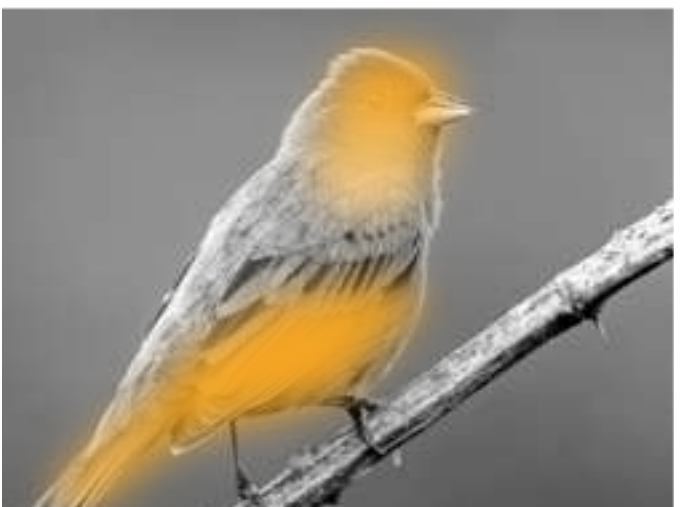
Blue Grosbeak
70%

Blue Grosbeak
70%

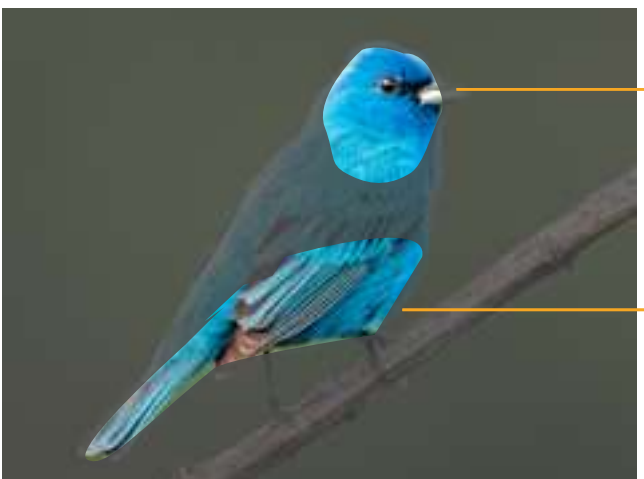
Lazuli Bunting
55%

Painted Bunting
45%

Important regions (highlighted) for AI's bird recognization:



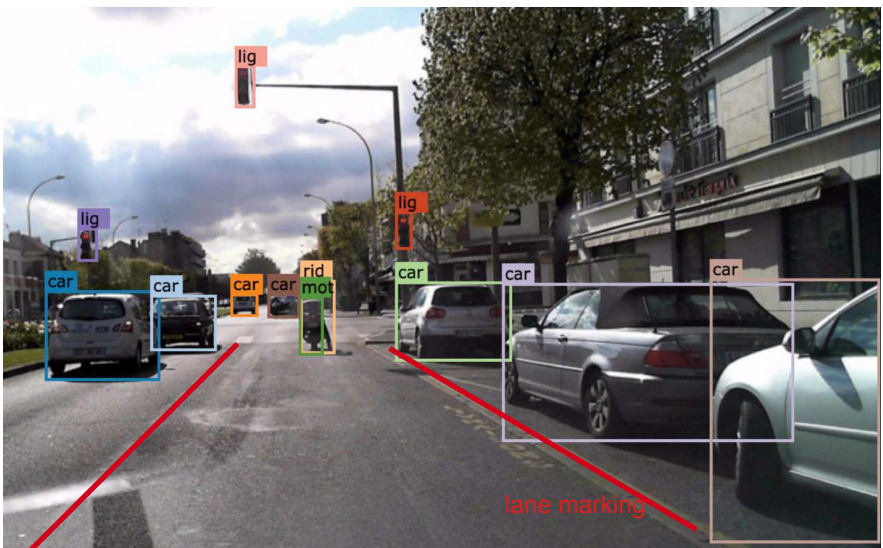
Important regions (highlighted) for AI's bird recognization:



contribute **30%** of the overall decision

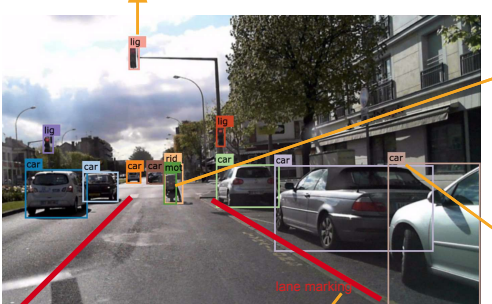
contribute **20%** of the overall decision

Important objects detected
for the self-driving car's judgement:



Important objects detected
for the self-driving car's judgement:

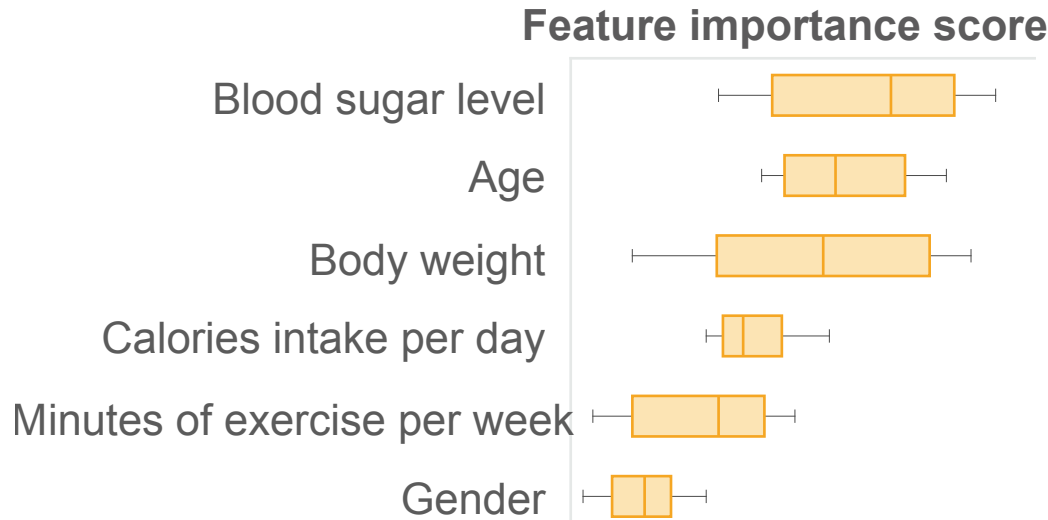
contribute **65%** of the **slow down & stop** decision



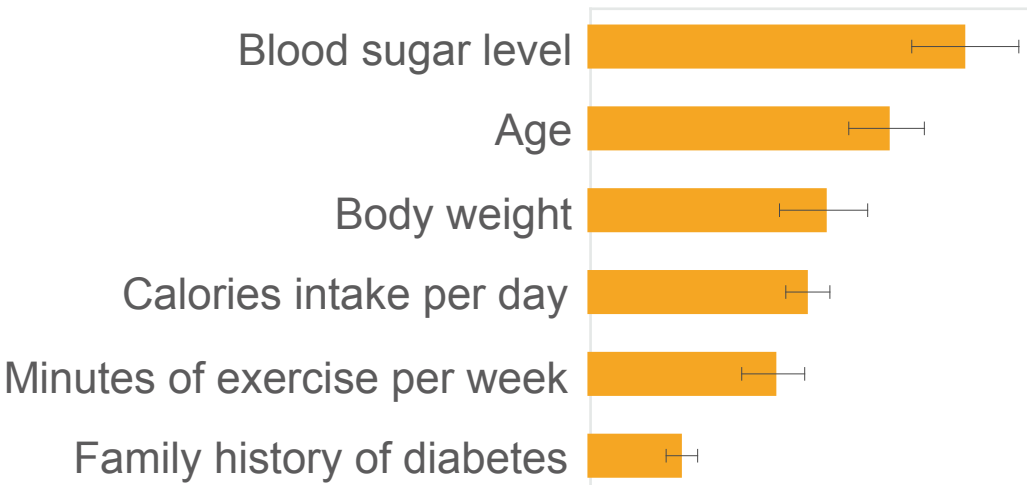
contribute **30%** of the **slow down & stop** decision

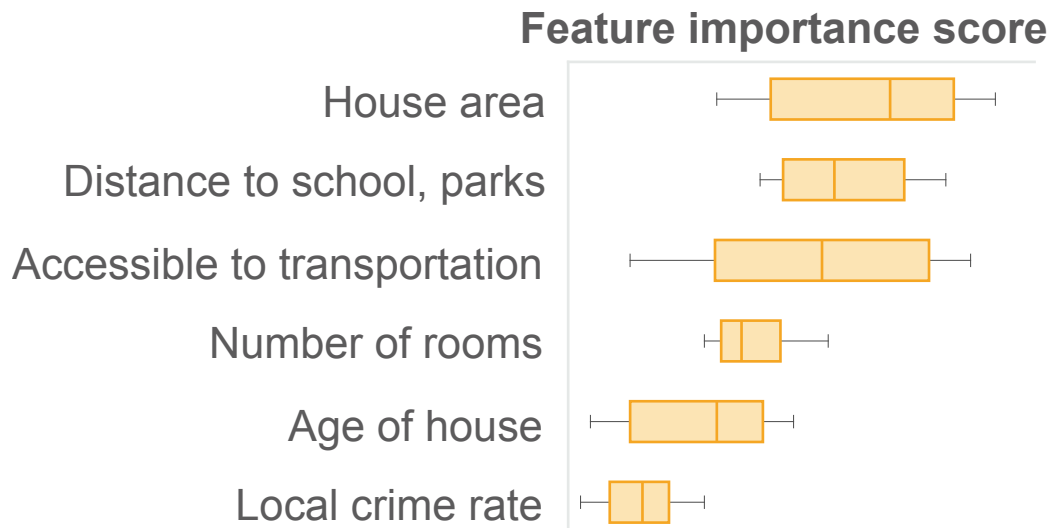
contribute **20%** of the **keep current lane** decision

contribute **48%** of the **keep current lane** decision

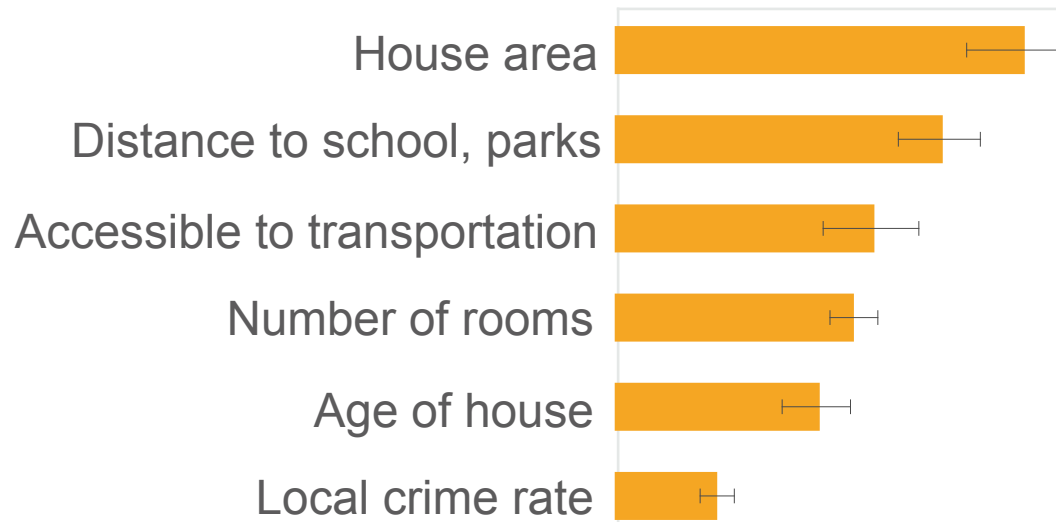

Feature importance score
Blood sugar level
Age
Body weight
Calories intake per day
Minutes of exercise per week
Gender

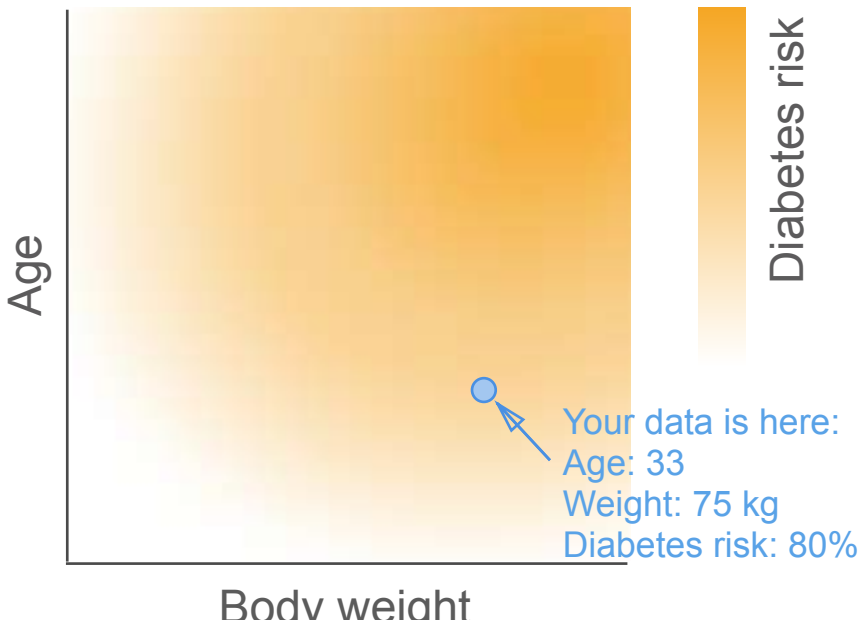
How important is each feature to the result:

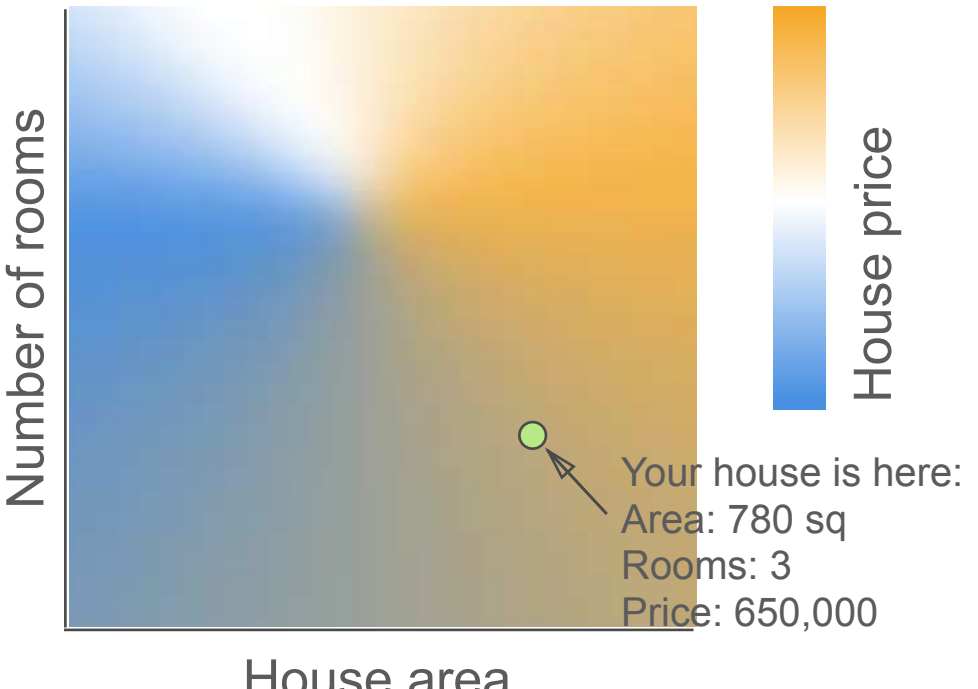


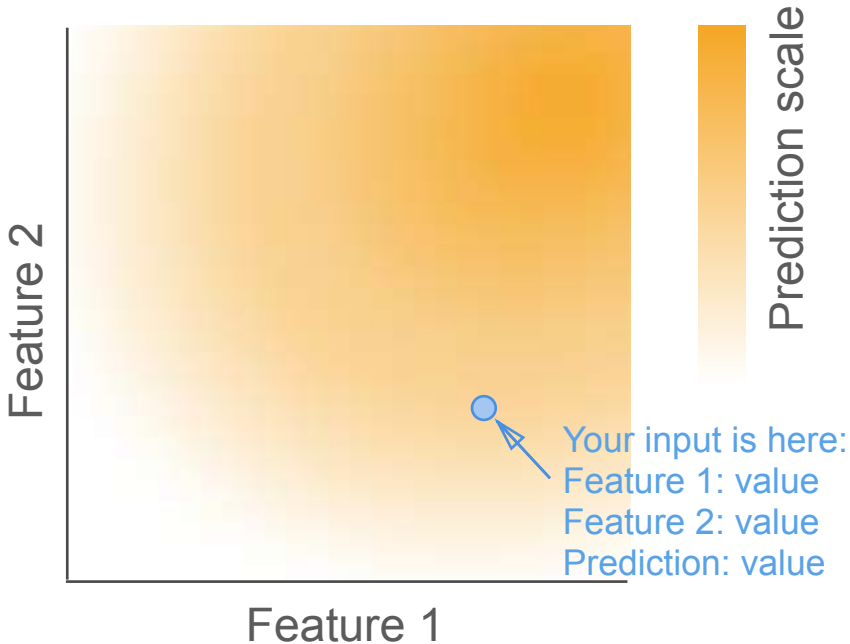

Feature importance score
House area
Distance to school, parks
Accessible to transportation
Number of rooms
Age of house
Local crime rate

How important is each feature to the result:

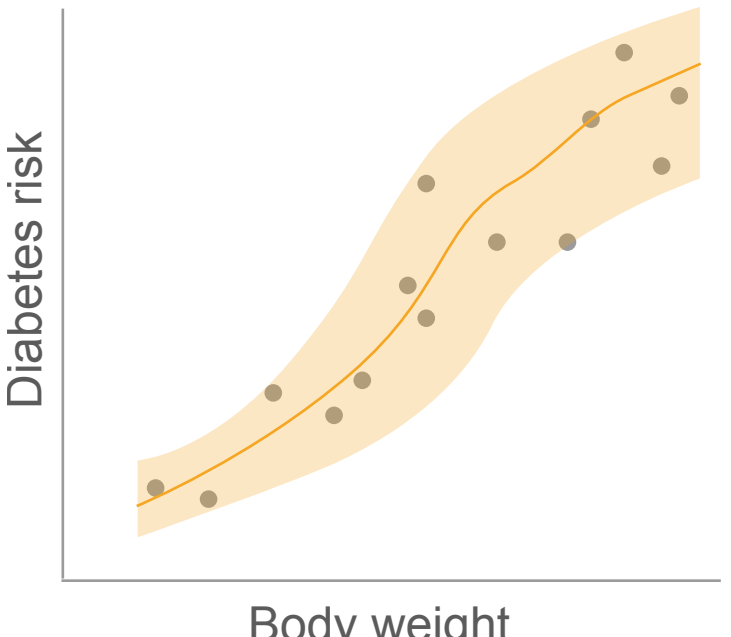


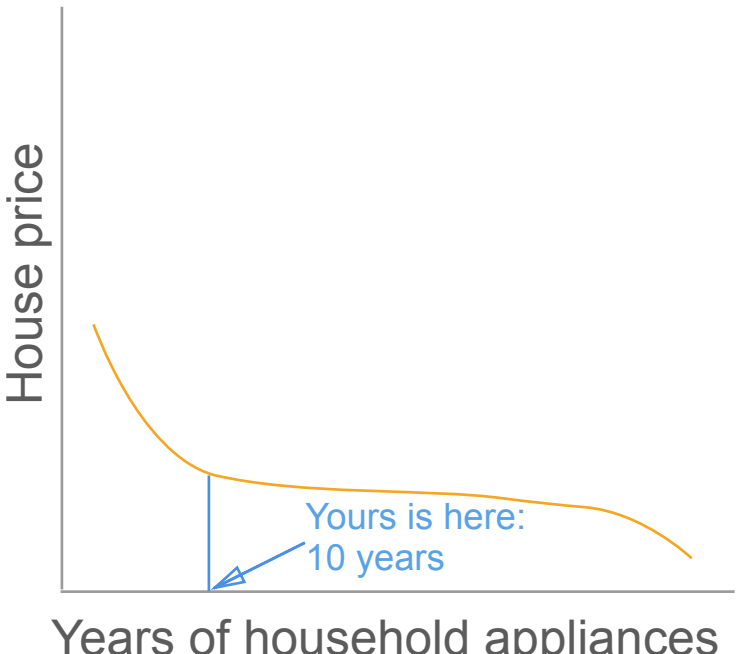

Age
Body weight
Diabetes risk
Your data is here:
Age: 33
Weight: 75 kg
Diabetes risk: 80%

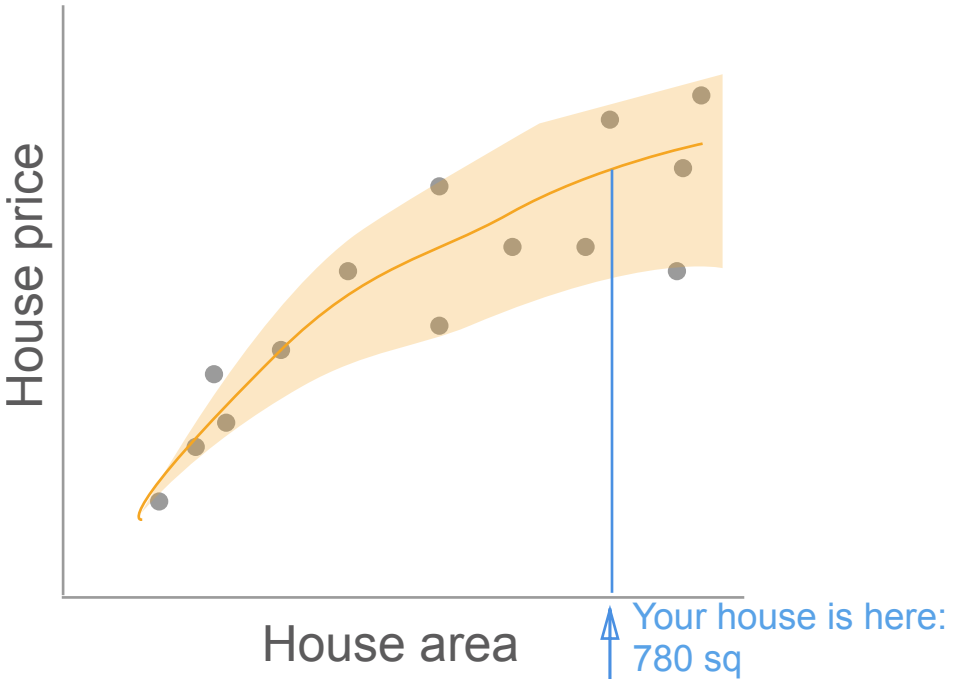

Number of rooms
House area
House price
Your house is here:
Area: 780 sq
Rooms: 3
Price: 650,000

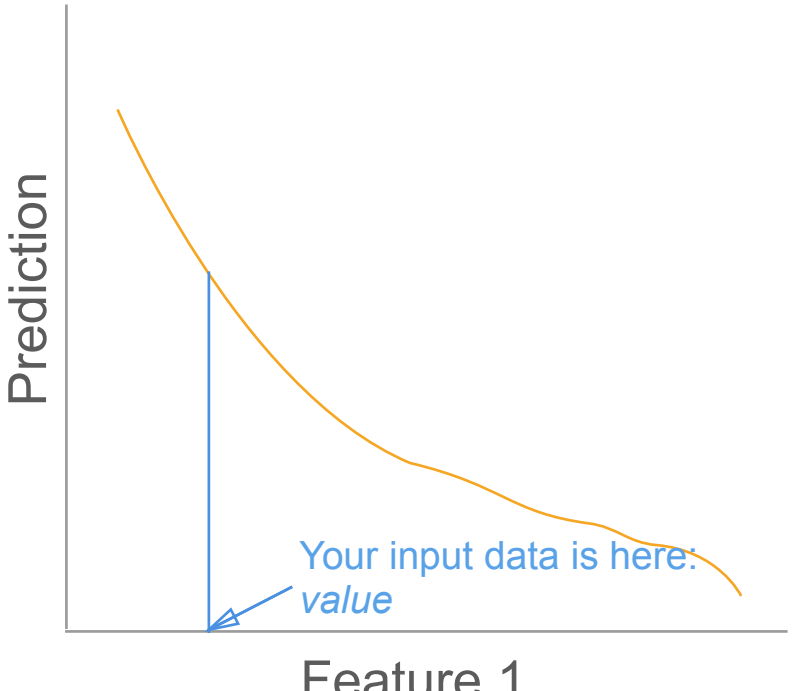

Feature 2
Feature 1
Prediction scale
Your input is here:
Feature 1: value
Feature 2: value
Prediction: value


Diabetes risk
Your exercise data is here:
50 min/week
Minutes of exercise per week

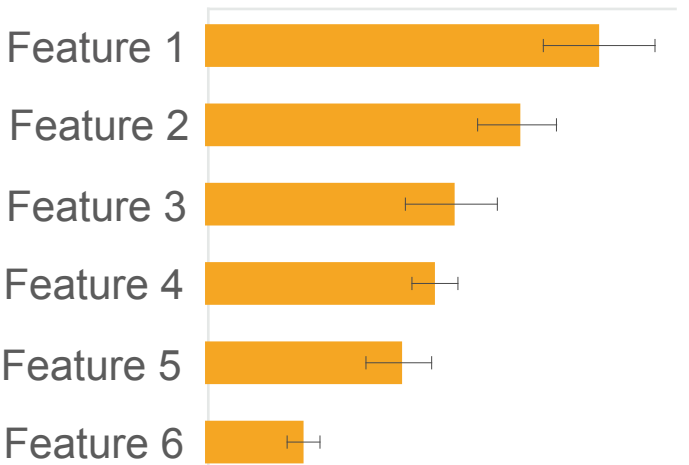

Diabetes risk
Body weight


House price
Yours is here:
10 years
Years of household appliances


House price
House area
Your house is here:
780 sq


Prediction
Your input data is here:
value
Feature 1

How important is each feature to the result:



The features of your current input:

- Feature 1
- Feature 2
- Feature 3
- ……

Rule

Decision tree

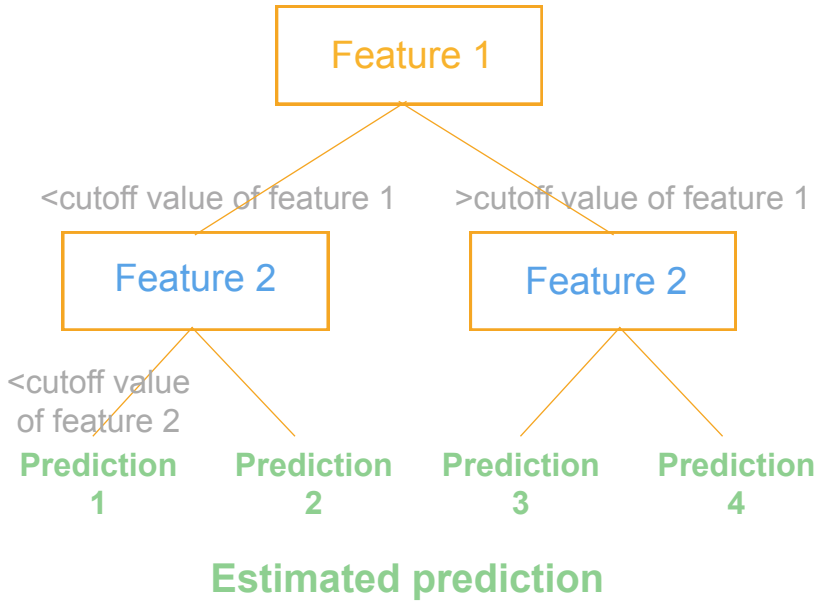
Decision flow

Rule

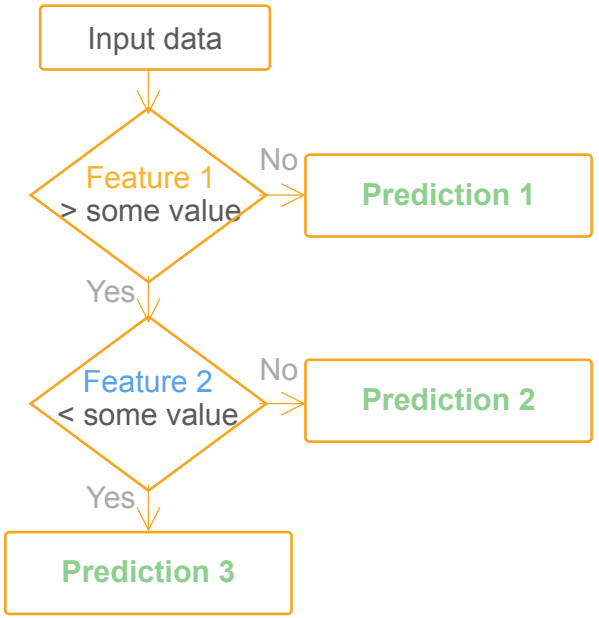
If **feature 1** ≤ some value,
and **feature 2** > some value,
Then the prediction **is some value**

If **house area** is some value,
and **distance to school, parks** < some value,
Then the prediction **is another value**

Decision tree



Decision flow



Similar example

Typical example

Counterfactual example

Similar example

A ***similar example*** as your input is like:

- Feature 1
- Feature 2
- Feature 3
- Feature 4
- Feature 5
- Feature 6

- **Prediction:**

Typical example

A ***typical example*** of the same prediction as yours (prediction value) is like:

- Feature 1
- Feature 2
- Feature 3
- Feature 4
- Feature 5
- Feature 6

Counterfactual example

If one of your input features had changed to the following value, your predicted outcome would have increased by 20%:

- Feature 1 changed to some value
- Feature 2 changed to some value
- Feature 3 changed to some value
- Feature 4 changed to some value
- Feature 5 changed to some value
- Feature 6 changed to some value
- ……

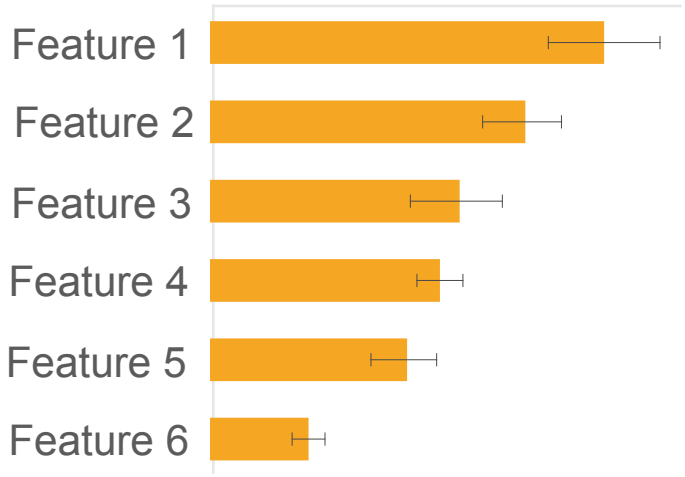
Feature attribute

Feature shape

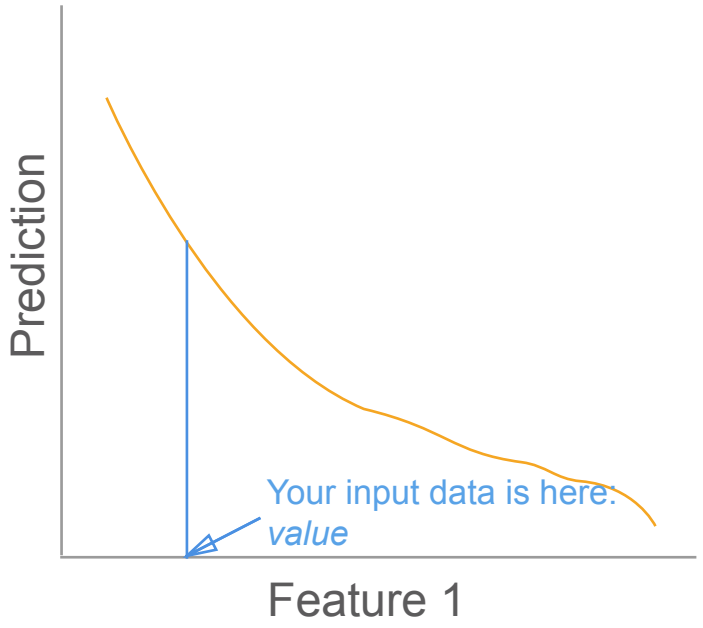
Feature interaction

Feature attribute

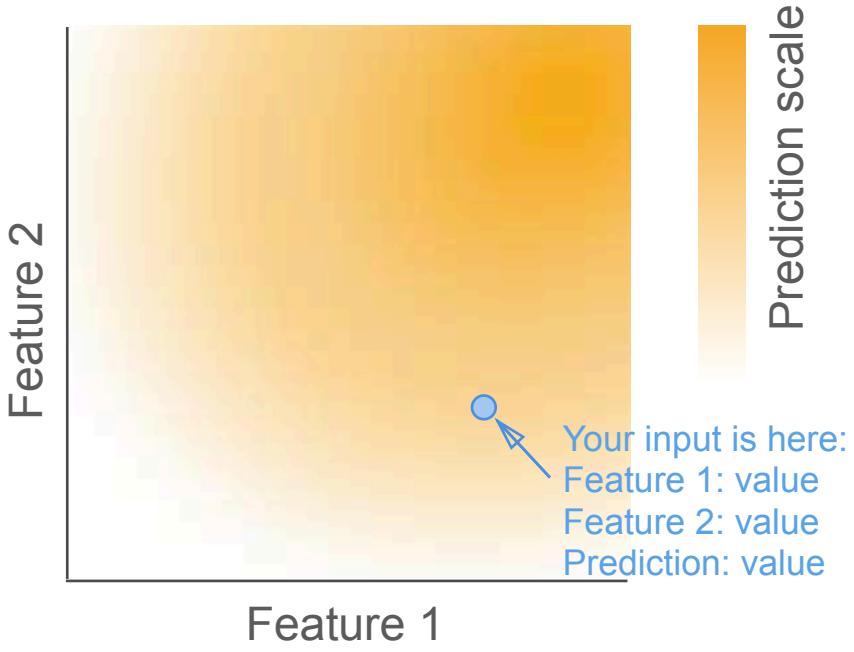
How important is each feature to the result:



Feature shape



Feature interaction



Input

Output

Performance

Dataset

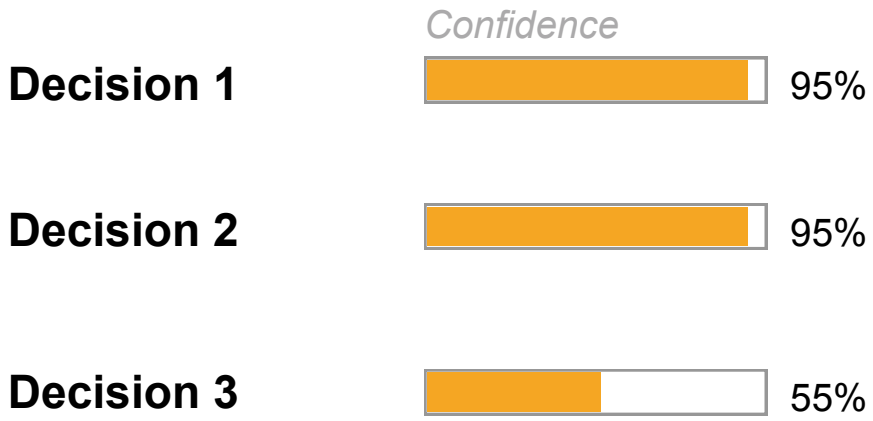
Input

The features of your current input:

- Feature 1
- Feature 2
- Feature 3
- ……

Output

AI's Decisions:



Performance

Overall performance of the AI :

- Accuracy: 85%
- Error rate: 15%

Dataset

The current decisions, and **their percentage in the training dataset** where the AI learns from