

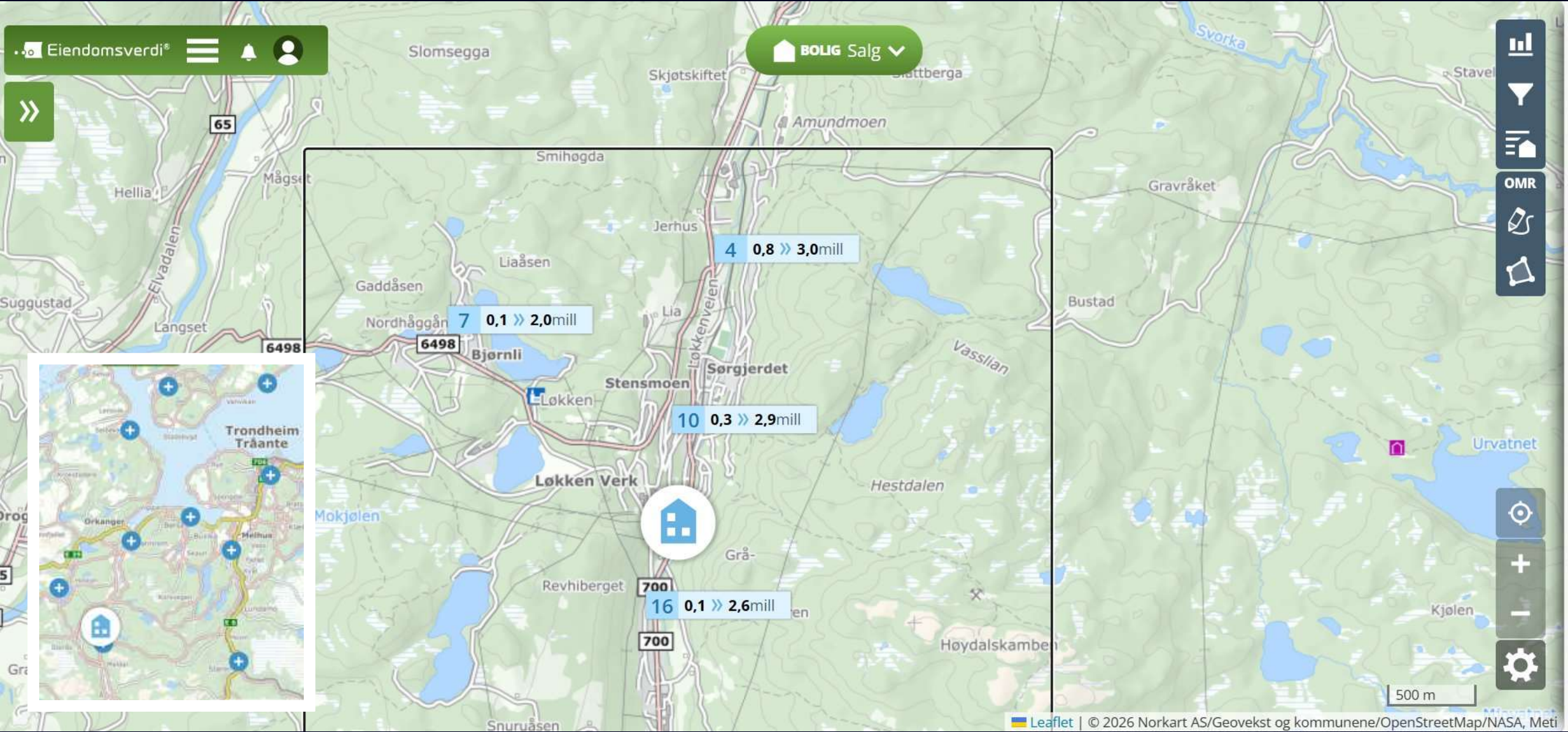


Responsible AI in the mortgage industry

AVMs as a case study

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Navigation and utility icons including a bar chart, funnel, list, OMR, and location tools.

Map navigation controls including a compass, zoom in (+) and zoom out (-) buttons, and a settings gear icon.

500 m

We're going to perform a valuation

**Apartment
building**

TYPE

Løkken Verk

LOCATION

1,015 m²

SIZE

1938

YEAR BUILT

evEstimat



Løkkenveien 379, 7332 LØKKEN VERK

Selveierleilighet (i blokk) 5059-428/1/11 /0

Grunnkrets: Løvby Kommune: Orkland

	VERDI EKS FGJELD	FELLESgjELD	TOTALT	M ² PRIS
Markedsverdi	10 540 000	-	10 540 000	10 384

We're going to perform a valuation

SOLD FOR

NOK 120,000

We were off by 8,700%







AVM and the EU AI Act

AI Definition - EU AI Act Article 3(1) – Regulation (EU) 2024/1689

'AI system' means a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments;



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AVMs as a case study

1

Transparent

We back the AVM with comparable sales and are open about accuracy

2

Bias

On average we hit the mark — no systematic bias

3

Precision

As many estimates as possible as close to actual market value as possible

4

Calibrated confidence

We know — and flag it — when we're uncertain

Transparency · Explainability


✓ **Godkjent verdi**

VERDI EKS FØJELD **5 820 000**

FELLESJELD -

TOTALT **5 820 000**

M² PRIS **97 000**



Selveier Leilighet		Energimerke	D Grønn	D
Selveiertomt	3 313 m ²	Områdescore	20 av 20	20
Byggeår	2009	Kommunescore	20 av 20	20
BRA i	60 m ²	Generell (vangsalgsrabatt)	11%	11%
P-ROM	60 m ²	Heis		
Etasje	1	Balkong		
Soverom	1	Fjernvarme		

VERDI BENYTTET I ESTIMERING

Salgspris	03.03.2025
Eks fellesgjeld	5 775 000
Fellesgjeld	0
Totalt	5 775 000

Sammenlignbare salg 12 i

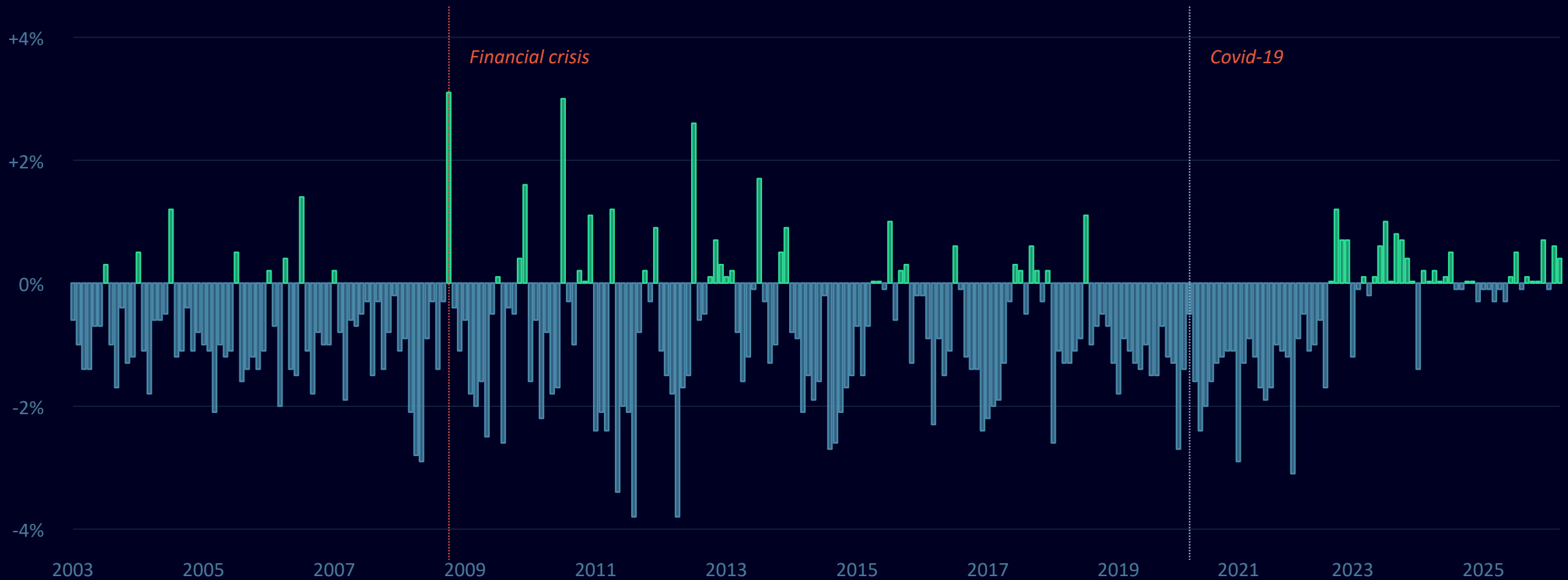
ADRESSE	DATE	PRIS	FØJELD	TOTAL VERDI	M ² -PRIS	M ² i	BYGGEÅR	ETG
Darres gate 12, 0175 OSLO	14.02.2025	8 350 000	0	8 350 000	122 794	68	2009	8
Darres gate 12, 0175 OSLO	03.08.2023	5 200 000	0	5 200 000	88 136	59	2010	1
Darres gate 10, 0175 OSLO	31.01.2025	6 100 000	0	6 100 000	103 390	59	2010	2
Darres gate 14, 0175 OSLO	09.07.2025	6 600 000	9 345	6 609 345	115 953	57	2009	3
Darres gate 10, 0175 OSLO	14.10.2025	4 700 000	0	4 700 000	83 929	56	2009	1
Darres gate 12, 0175 OSLO	04.04.2024	5 600 000	0	5 600 000	101 818	55	2009	2
Darres gate 12, 0175 OSLO	09.05.2022	4 800 000	0	4 800 000	81 356	59	2010	1
Darres gate 12, 0175 OSLO	14.02.2025	5 600 000	0	5 600 000	103 704	54	2010	5
Darres gate 14, 0175 OSLO	23.06.2025	7 610 000	0	7 610 000	113 582	67	2009	8
Darres gate 12, 0175 OSLO	16.05.2025	5 500 000	0	5 500 000	103 774	53	2010	6
Darres gate 10, 0175 OSLO	10.02.2024	4 870 000	0	4 870 000	85 439	57	2009	1
Darres gate 12, 0175 OSLO	10.06.2024	5 100 000	0	5 100 000	96 226	53	2009	4

What is best practice for machine learning algorithms?

Bias — we hit the mark on average

-0.06%

Total deviation · per month



Monthly deviation between evEstimat and sale price · 2003–2026

What is best practice for machine learning algorithms?

We started with our biggest miss ever.

Here's the norm.

9 out of 10

Norwegian homes are estimated within 20% of actual sale
price

A photograph of a modern glass skyscraper with a blue-tinted sky background. The building's facade is composed of large glass panels and dark metal frames, creating a complex geometric pattern. The sky is a deep, clear blue. The overall mood is professional and modern.

Calibrated confidence...

What is best practice for machine learning algorithms?

Remember Løkken Verk?

evEstimat

Løkkenveien 379, 7332 LØKKEN VERK
Selveierleilighet (i blokk) 5059-428/1/11 /0
Grunnkrets: Løvby Kommune: Orkland

Markedsverdi
VERDI EKS FGJELD 10 540 000
FELLESGJELD -
TOTALT 10 540 000
M² PRIS 10 384

Godkjent verdi
per 15.01.2026
VERDI EKS FGJELD 4 010 000
FELLESGJELD -
TOTALT 4 010 000
M² PRIS 3 951

USIKKERHETSKLASSE
LAV 1 2 3 4 5 6 7 HØY

Estimert verdi for denne boligen overstiger godkjent maksimalverdi, og er derfor nedjustert til 4 010 000

Selveier Leilighet
Festet tomt 2 984 m²
Byggeår 1938
BRA-i 1 015 m²
P-ROM 1 015 m²
Etasje 1
Soverom -

Energimerke
Områdescore 5 av 20
Kommunescore 14 av 20
Generell tvangssalgsrabatt 35%

ÅRSAK

Map showing location near Løkken Verk, Svorkmo, and Vørnstad.

Uncertainty class 7

Highest possible

The model flagged it

NOK 120,000

Sale price

1.15% of the estimate

The model missed spectacularly — but it knew it didn't know

What is best practice for machine learning algorithms?

Uncertainty in weather forecasts

Oslo
Sj. 10 moh.

Værvarsel Andre varsler Kart 21-dagersvarsel Hav og kyst **Detaljer** Historikk

Chance of precipitation %

Tabell Graf

I dag 18. april

Tid	Vær	Temp.	Føles som	Duggpkt.	Nedbør mm	Nedbørsjans %	Vind(kast) m/s	Trykk hPa	Luftfuktighet %	Skydekke %	Tåke %	Lave %	Mellomh. %	Høye %
18	☁	13°	13°	11*	0,1-0,4	70	1 (3) ↘	1020	91	100	0	99	100	87
19	☁	12°	12°	11*	0,1-0,4	70	1 (2) ↘	1020	93	100	0	100	100	57
20	☁	11°	11°	11*	0,1-0,6	80	1 (3) ↘	1019	95	100	0	100	100	100
21	☁	11°	11°	10*	0,2-0,8	90	1 (2) ↑	1019	95	100	0	100	100	100
22	☁	11°	11°	10*	0,2-0,9	90	1 (2) ↖	1019	95	100	0	100	100	100
23	☁	10°	10°	9*	0,2-0,8	90	1 (2) ↓	1019	95	100	0	99	100	99

Søndag 19. april

Tid	Vær	Temp.	Føles som	Duggpkt.	Nedbør mm	Nedbørsjans %	Vind(kast) m/s	Trykk hPa	Luftfuktighet %	Skydekke %	Tåke %	Lave %	Mellomh. %	Høye %
00	☁	10°	9°	9*	0,3-0,8	95	3 (4) ↘	1018	92	100	0	100	100	98
01	☁	10°	8°	8*	0,3-1,2	> 98	3 (5) ↘	1018	90	100	0	100	100	99
02	☁	9°	8°	8*	0,5-1,6	> 98	3 (6) ↘	1018	90	100	0	100	100	100
03	☁	9°	7°	7*	0,5-1,5	> 98	4 (7) ↘	1018	91	100	0	100	100	100
04	☁	9°	7°	7*	0,6-1,7	> 98	4 (7) ↘	1017	90	100	0	100	100	100
05	☁	9°	7°	7*	0,7-1,8	> 98	3 (7) ↘	1017	90	100	0	100	100	100
06	☁	9°	6°	7*	0,8-1,9	> 98	4 (7) ↘	1017	90	100	0	100	100	100
07	☁	8°	6°	7*	0,8-1,9	> 98	5 (8) ↘	1017	91	100	0	100	100	96
08	☁	8°	5°	7*	0,8-2,2	> 98	5 (9) ↘	1017	90	100	0	100	100	92
09	☁	8°	5°	7*	0,9-2,5	> 98	5 (9) ↘	1018	89	100	0	100	100	93
10	☁	8°	5°	7*	0,8-2,6	> 98	6 (10) ↘	1019	89	100	0	100	100	87
11	☁	8°	5°	6*	1-2,5	> 98	6 (10) ↘	1019	88	100	0	100	100	90

A good forecaster doesn't just say:

“It will rain tomorrow”

It says:

“70% chance of rain”

**When it says 70% —
it rains 70% of the time.**

How do we calculate uncertainty?



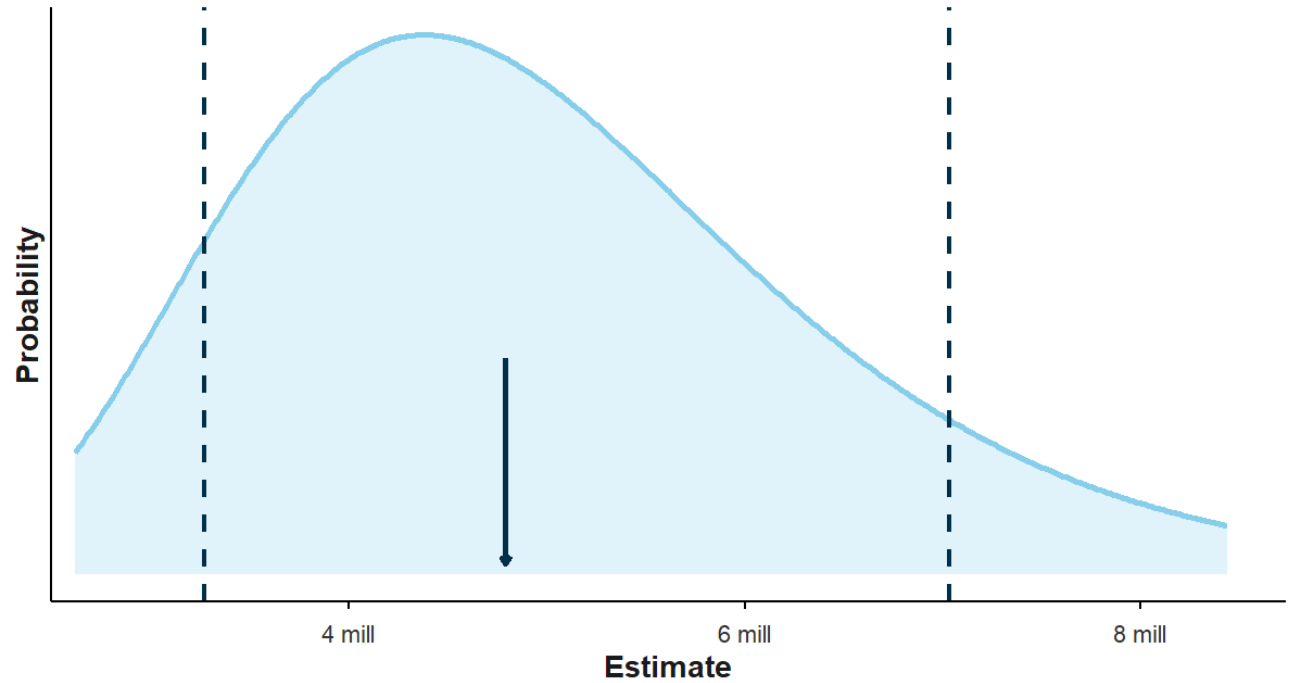
eiendomsverdi 10.10.2025

evEstimat Lagre evEstimat

Knappebrekka 12, 5337 RONG
Selveier: eneborg 4626-23474940 / 06
Grunnkrets: Totfay Kommune: Rygarden

Borett Se spesielle forhold

Markedsverdi	VERDI EKS FØRSLØ	TELLESGJELD	TOTALT	MP PRIS	LEIERSHIFTERLASS
	4 790 000	-	4 790 000	18 638	LAV 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100



How do we calculate uncertainty?

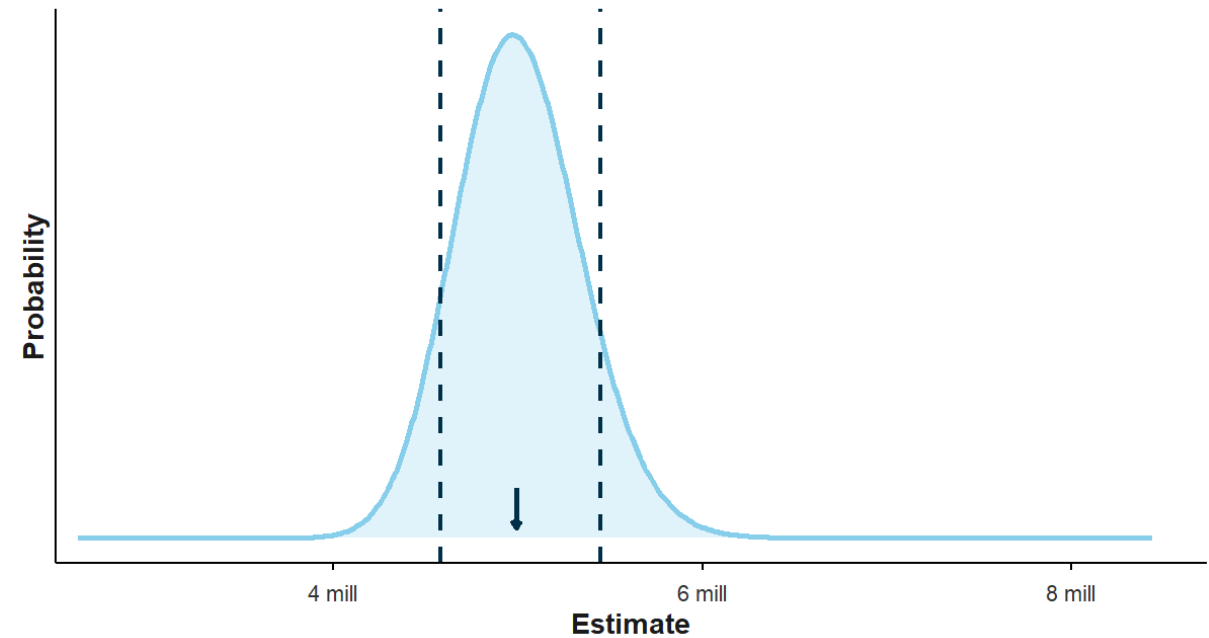


Eiendomsværdi 10.10.2025

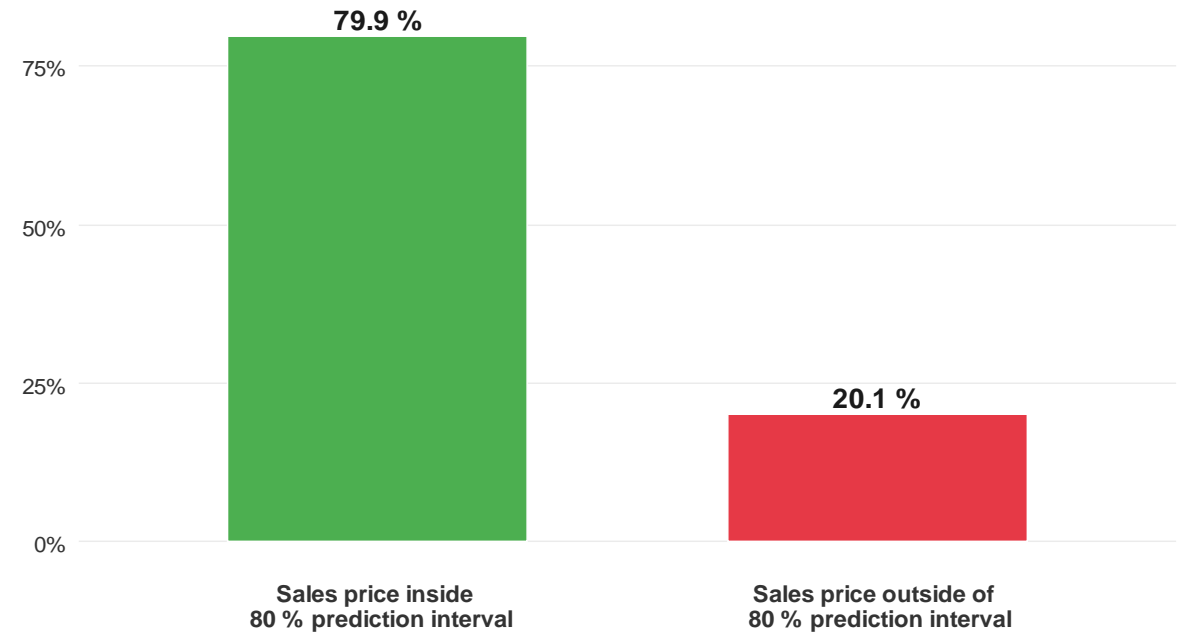
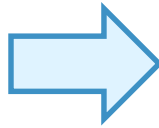
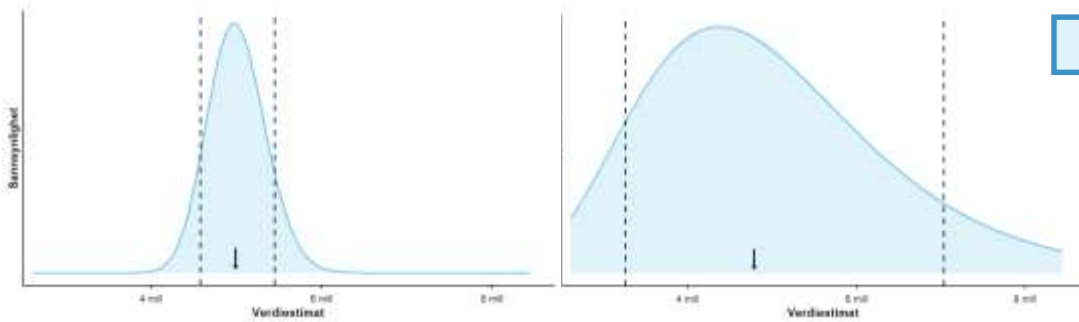
evEstimat [Lagre evEstimat](#)

Huitfeldts gate 3, 0253 OSLO
Selveierrettighet (1 blokk) · 301-209/92/0 /12
Delbydel: Skillebekk Bydel: Frogner

	VERDI EKST. FØJELD	FELLESEIJD	TOTALT	M ² PRIS	USIKKERHETSKLASSE
Markedsverdi	4 990 000	-	4 990 000	131 316	LAV 1 2 3 4 5 6 7 8 HV



How do we test confidence?

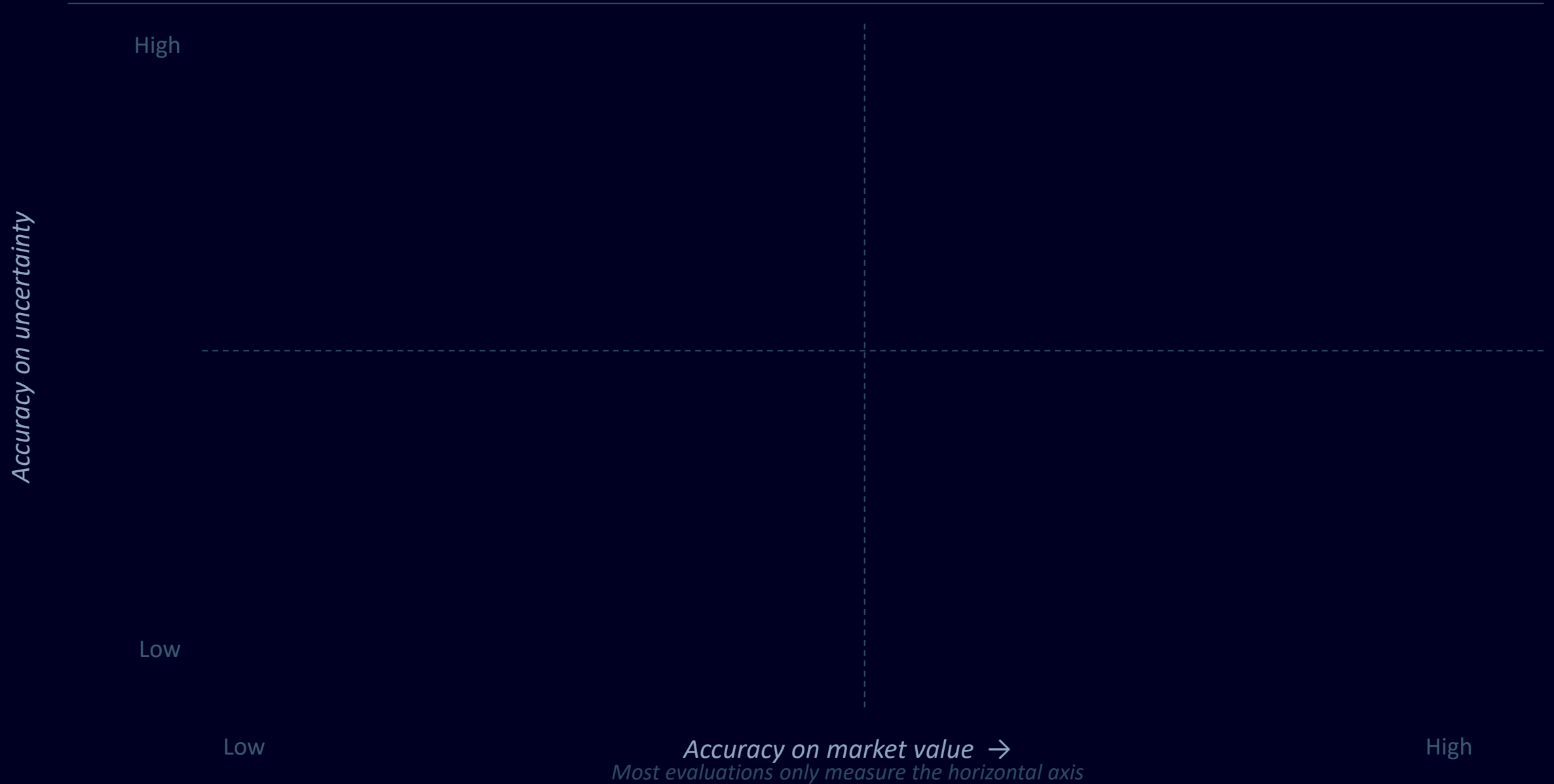


A photograph of a modern building's exterior, featuring a complex glass and steel structure. A curved staircase is visible on the left side, and the building's facade is composed of large glass panels and dark metal frames. The overall color palette is dominated by blues and greys, with some reflections on the glass.

Best practice for machine based systems

A conceptual summary

What is best practice for machine learning algorithms?



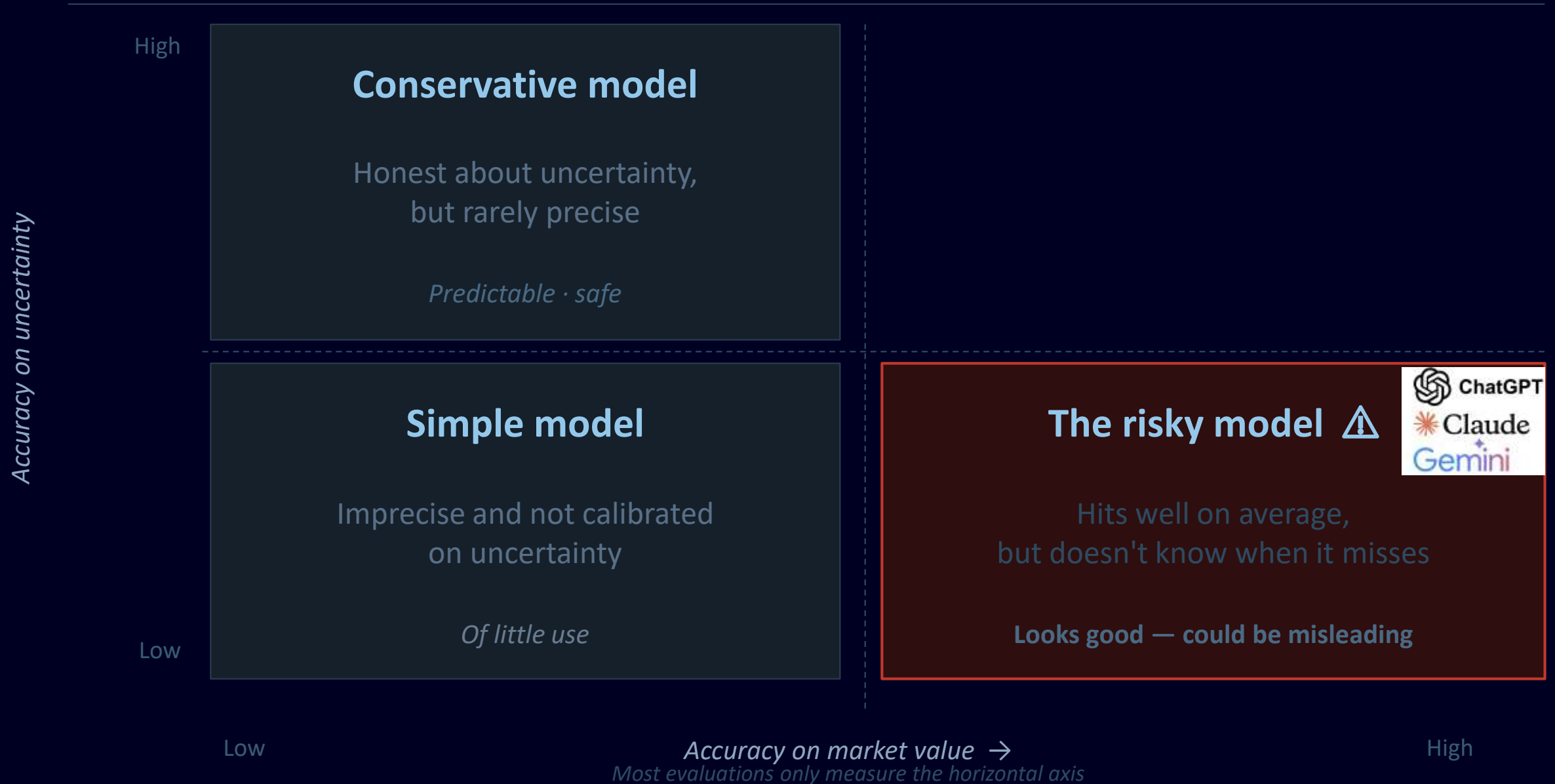
What is best practice for machine learning algorithms?



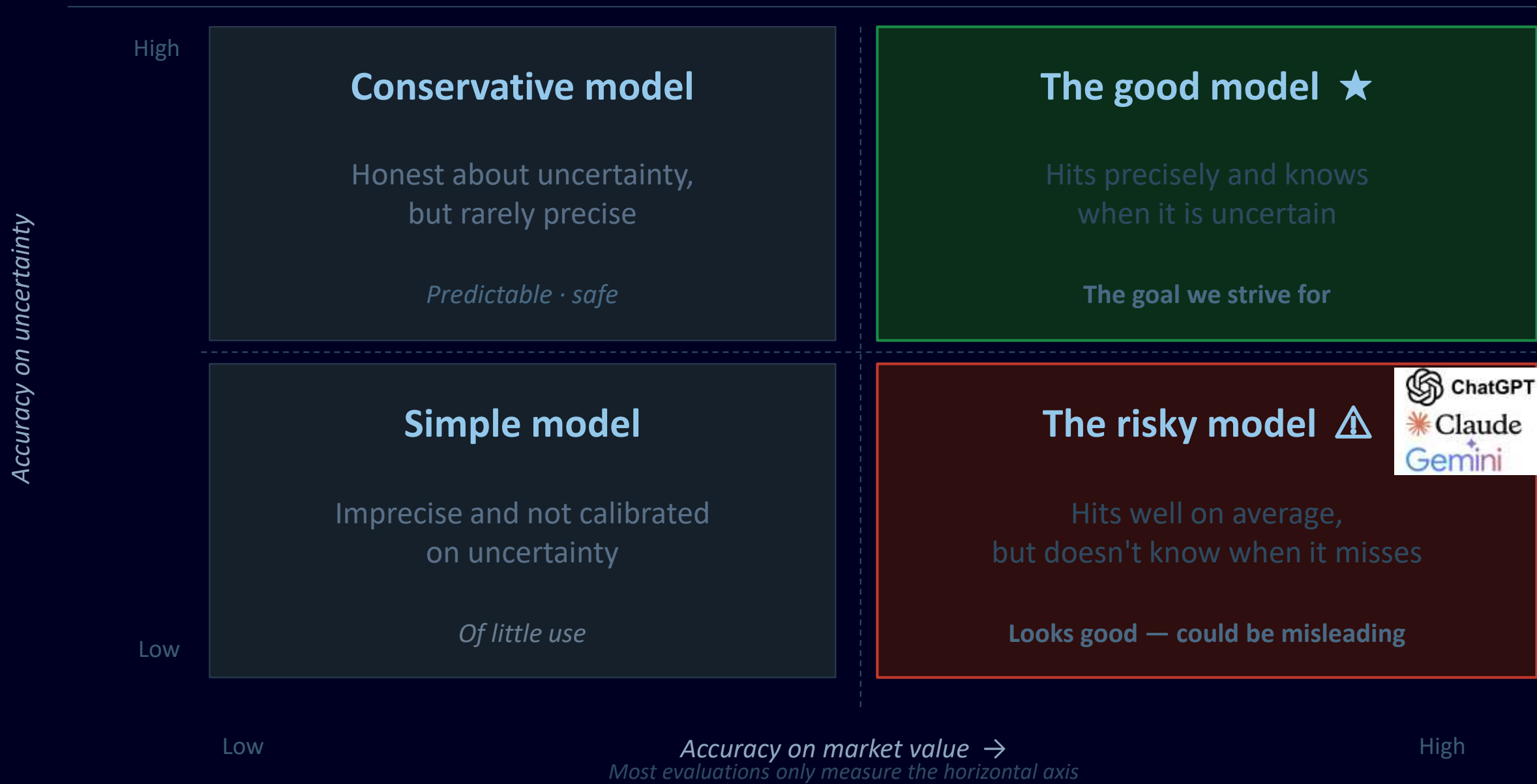
What is best practice for machine learning algorithms?



What is best practice for machine learning algorithms?



What is best practice for machine learning algorithms?



A good model is...

1

Transparent

Comparable sales
Method documented
Performance metrics
published

2

Unbiased and precise

Hits on average, with a
narrow distribution

3

Knows its own uncertainty

Knows, and says,
when it could be wrong

4

Continuously monitored

Testing confirms
that promises are kept