



Demystifying AI: Practical Predictive Analytics for Better Estimates

Learn from your past. Predict the future.



Disclaimers

I'm not a software engineer

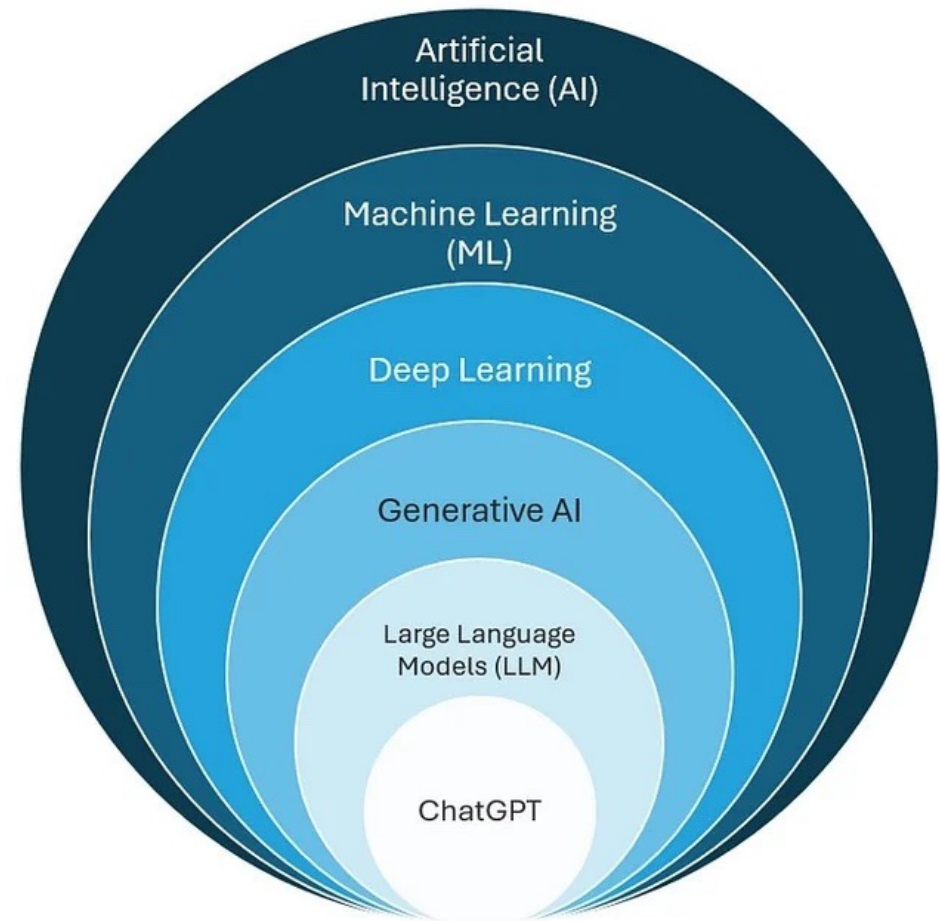
I'm not a machine learning engineer

I'm not a data scientist

This content is valid through the end
of the presentation!



Artificial Intelligence




Fast-approaching future: **Agents**

How do Large Language Models work?

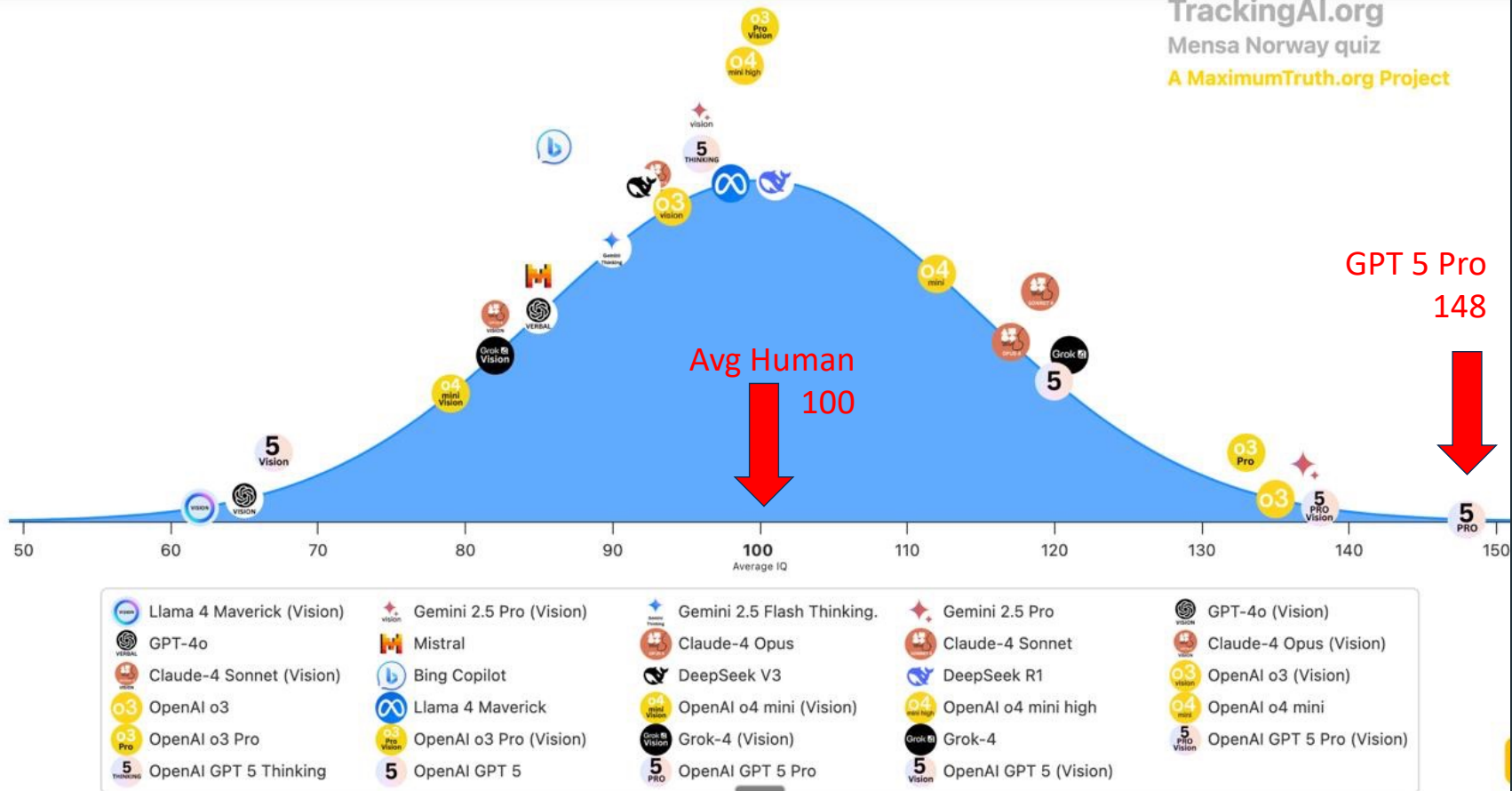
 Claude

 Gemini


ChatGPT


Copilot

 Grok





Rudolph the red-nosed...



Stewart finished his explanation with...

Solve $3.9 = x + 3.11$

Brilliantly Stupid



RAIN MAN

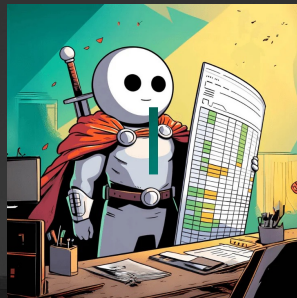
Caution: Use LLMs wisely



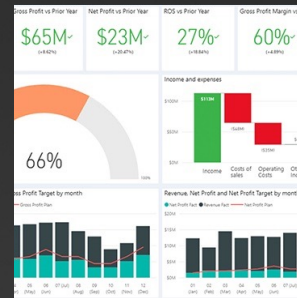
Data Analytics journey



Resigned
Soldier



DIY -
Spreadsheet
Warrior



DIY -
Corporate IT
(Power BI)



More than a
dashboard...



Which one are you?



What have we learned at Eos?

1. Every company has data, but few make it work for them
2. Better data = better results (predictions and analysis)
3. Data without context has limited value
4. Data must be curated to deliver high value
5. Estimators love data but aren't data analysts. Yet.
6. Estimators want control (agency) and personalization
7. Estimators want transparency and interpretability
8. Estimators must produce defensible results
9. Predictive analytics and AI are a journey
- 10. Benchmarking** is even more critical with AI

Benchmarking – critical with AI

- Leverage trusted historical data
- Identify meaningful comparisons
- Focus on key metrics and cost drivers
- Identify outliers (anomalies)
- Optimize to mitigate risks
- Defend your estimate
- Tell the story

https://demo2.essortex.com/12/PH/project/compare

CORTEX Project History | Browse | Projects | Search | Joel Morton

Compare projects | 11 projects | Indicators | Thumbnails | Baseline

Attributes | KPIs | Elements


























Barren Creek Pro Centre | Main Place | Employee Services AC | Farmers Insurance | Twin Oaks 1 | Twin Oaks 2

Uniformat	Element unit price	Baseline to average: Elem...	Average: Element unit price	Element unit price	Element unit price	Element unit price	Element unit price	Element unit price
59 Total	\$ 281.39 /GSF	90.57%	\$ 310.68 /GSF	\$ 236.03 /GSF	\$ 703.75 /GSF	\$ 226.02 /GSF	\$ 201.79 /GSF	
B Shell	\$ 253.15 /GSF	306.10%	\$ 82.70 /GSF	\$ 67.48 /GSF	\$ 122.24 /GSF	\$ 62.30 /GSF	\$ 89.98 /GSF	
B10 Exterior Horizontal Enclosures	\$ 7.78 /GSF	60.88%	\$ 12.78 /GSF	\$ 5.91 /GSF	\$ 21.75 /GSF	\$ 6.86 /GSF	\$ 14.57 /GSF	
C Interiors	\$ 8.17 /GSF	46.31%	\$ 17.65 /GSF	\$ 7.25 /GSF	\$ 45.13 /GSF	\$ 6.31 /GSF	\$ 16.65 /GSF	
C10 Interior Construction	\$ 1.60 /GSF	43.19%	\$ 3.70 /GSF	\$ 0.99 /GSF	\$ 4.33 /GSF	\$ 1.28 /GSF	\$ 7.96 /GSF	
C1010 Interior Partitions	\$ 0.19 /GSF	22.90%	\$ 2.56 /GSF	\$ 0.69 /GSF	\$ 2.77 /GSF	\$ 0.97 /GSF	\$ 5.79 /GSF	
C1020 Interior Windows			\$ 0.02 /GSF			\$ 0.03 /GSF		
C1030 Interior Doors	\$ 0.25 /GSF	51.55%	\$ 0.48 /GSF	\$ 0.14 /GSF	\$ 0.50 /GSF	\$ 0.28 /GSF	\$ 1.00 /GSF	
C1090 Interior Specialties	\$ 0.77 /GSF	104.76%	\$ 0.73 /GSF	\$ 0.16 /GSF	\$ 1.06 /GSF		\$ 1.16 /GSF	
C20 Interior Finishes	\$ 6.57 /GSF	47.14%	\$ 13.95 /GSF	\$ 6.26 /GSF	\$ 40.80 /GSF	\$ 5.02 /GSF	\$ 8.69 /GSF	
C210 Wall Finishes			\$ 2.89 /GSF	\$ 1.68 /GSF	\$ 10.94 /GSF	\$ 0.99 /GSF	\$ 1.69 /GSF	

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Prediction methodologies

Analytic techniques pros and cons

	Limited data	Domain expertise not available	Repeatability required	Interpretability required	Adaptability required
Deterministic (rules-based)					
Statistical					
Machine Learning AI					
Deep Learning AI					
Generative AI (ChatGPT)					





In summary

- AI is many, many things
- AI is not a calculator
- AI is changing by the hour
- Don't blindly trust, always verify
- Beware of the easy button
- Better data, better predictions
- Start experimenting today!



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Preconstruction System Integrators

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Cost database development

Estimating system implementations



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Questions

Open discussion

