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AI Today – Trends

Introduction to Machine Learning

Computer Science BSc Course, ELTE Faculty of Informatics

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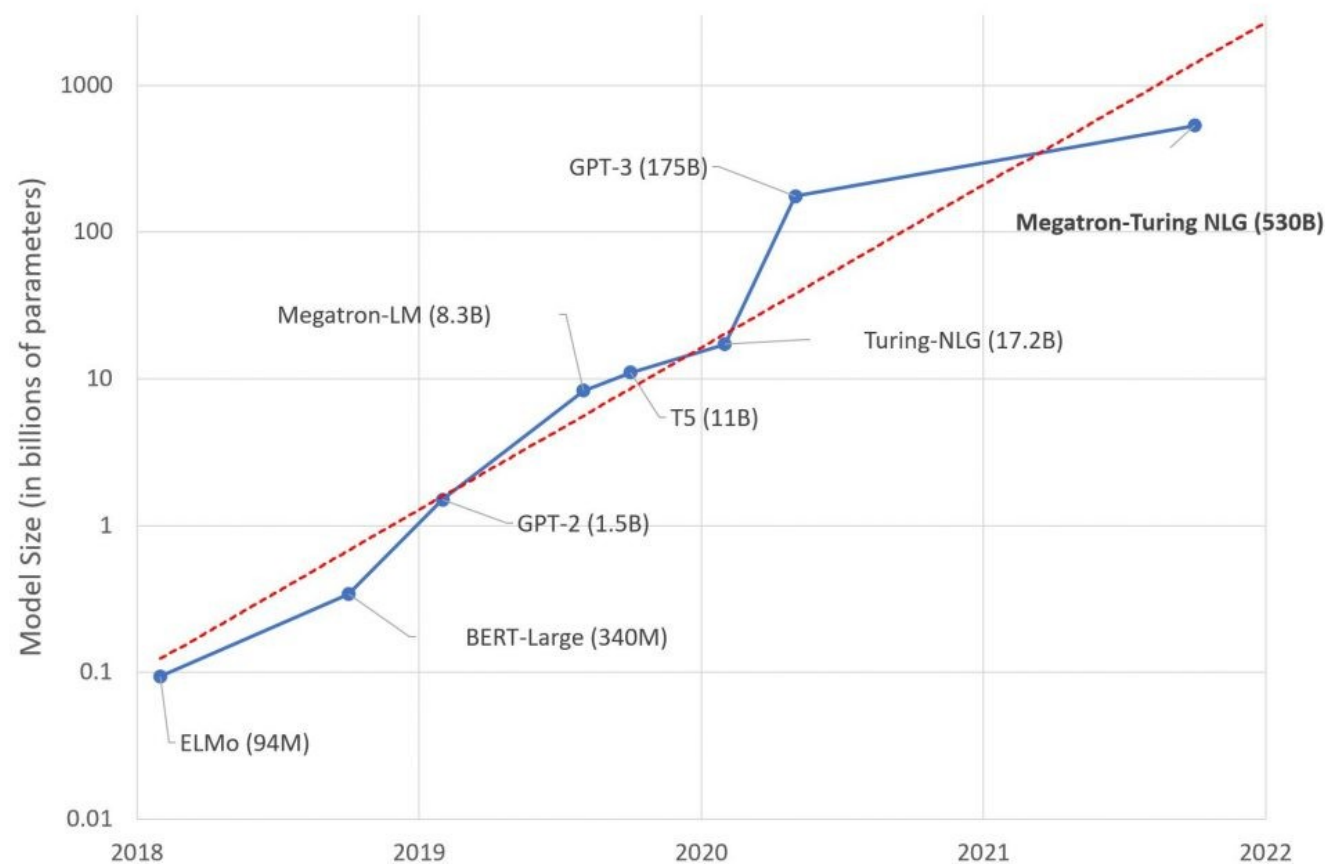
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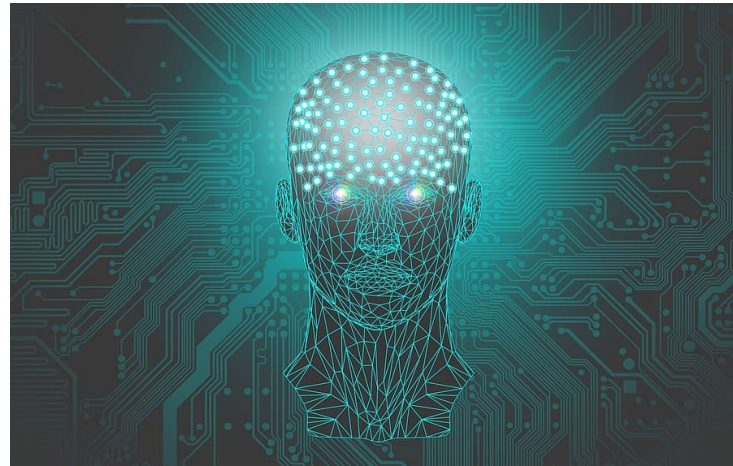
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Trends – Not Discussed Today

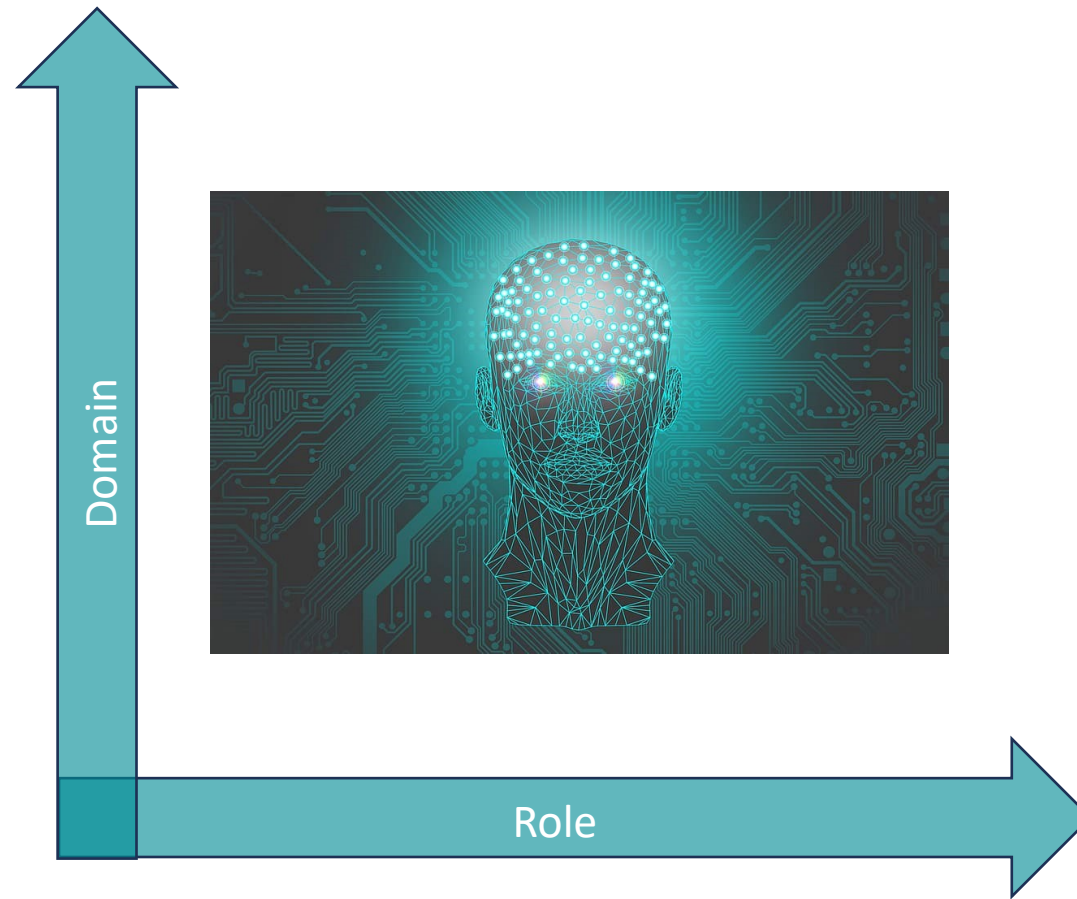


<https://www.microsoft.com/en-us/research/blog/using-deepspeed-and-megatron-to-train-megatron-turing-nlg-530b-the-worlds-largest-and-most-powerful-generative-language-model/>

Trends Discussed – Specialisation



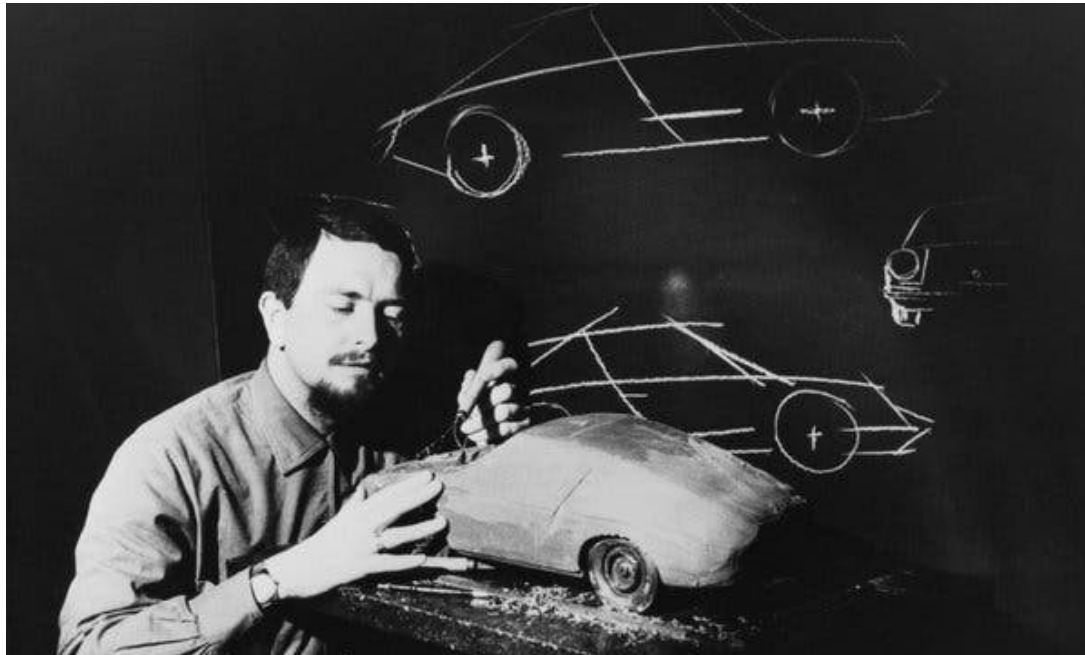
Trends Discussed – Specialisation



Analogy



Analogy

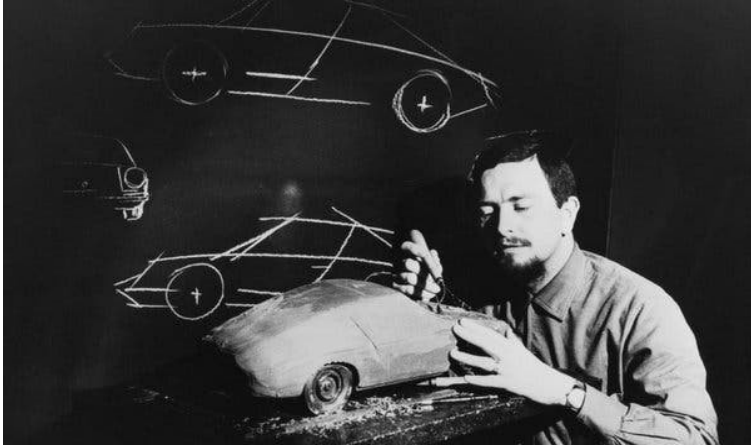


Ferdinand Porsche
Car Designer Genius



Lewis Hamilton
7-times F1 Champion

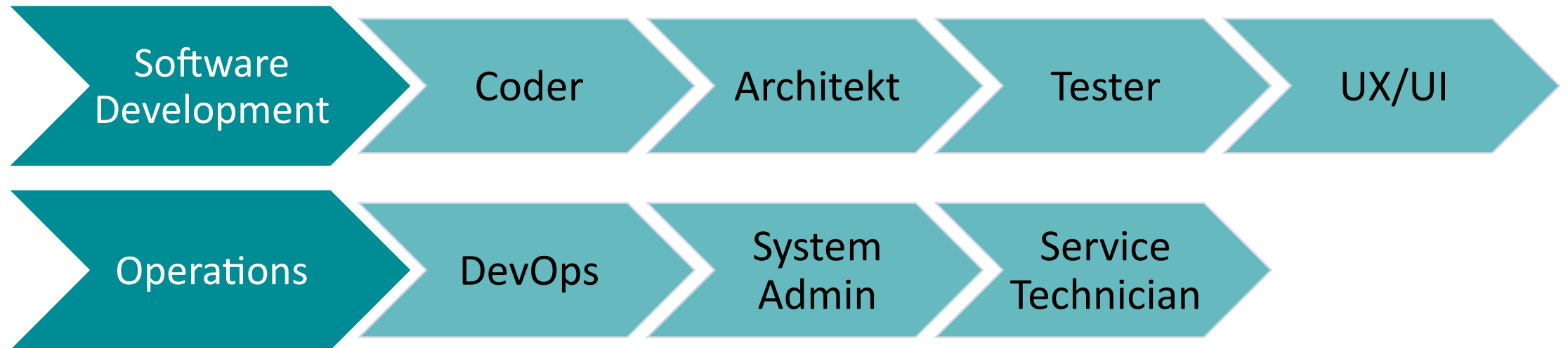
Role Specialisation



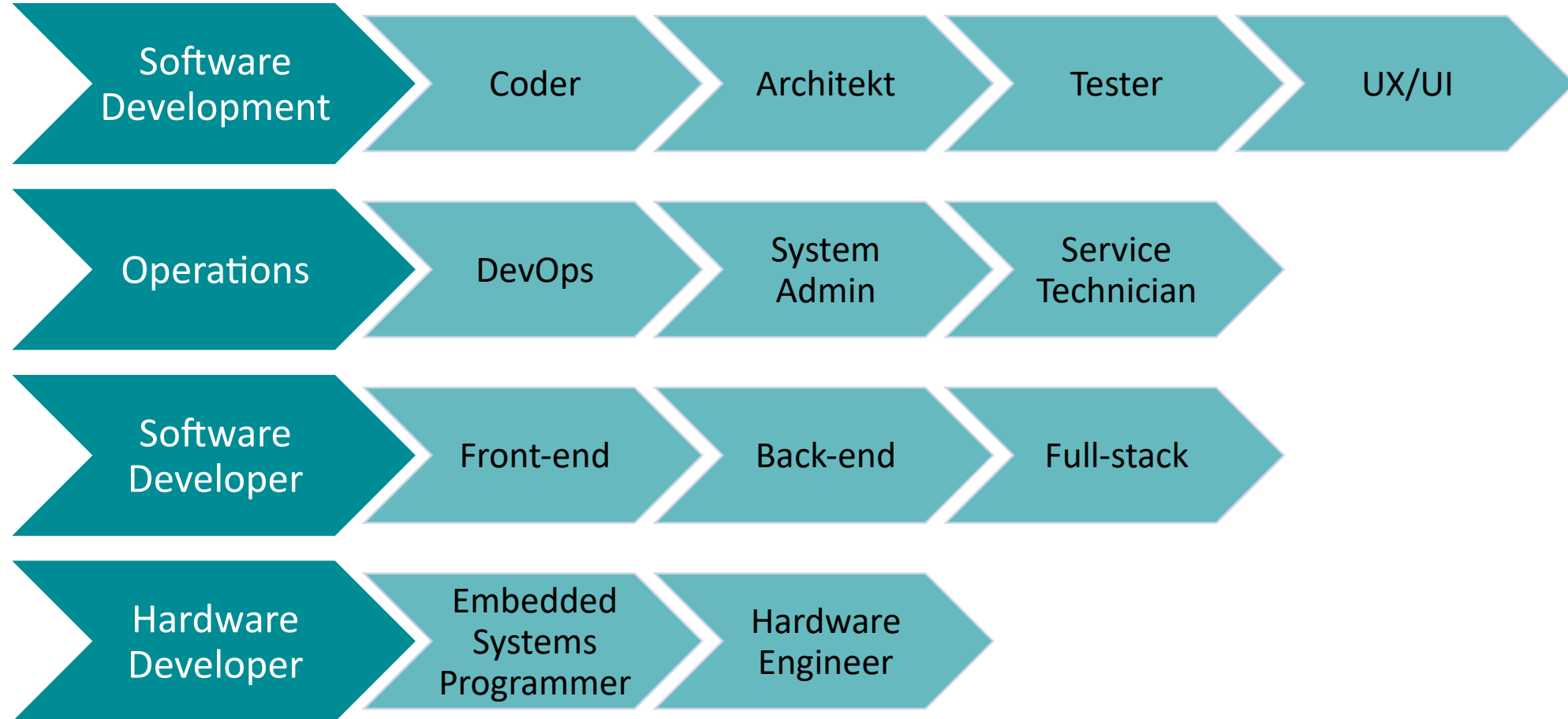
„Computer Expert“



„Computer Expert“



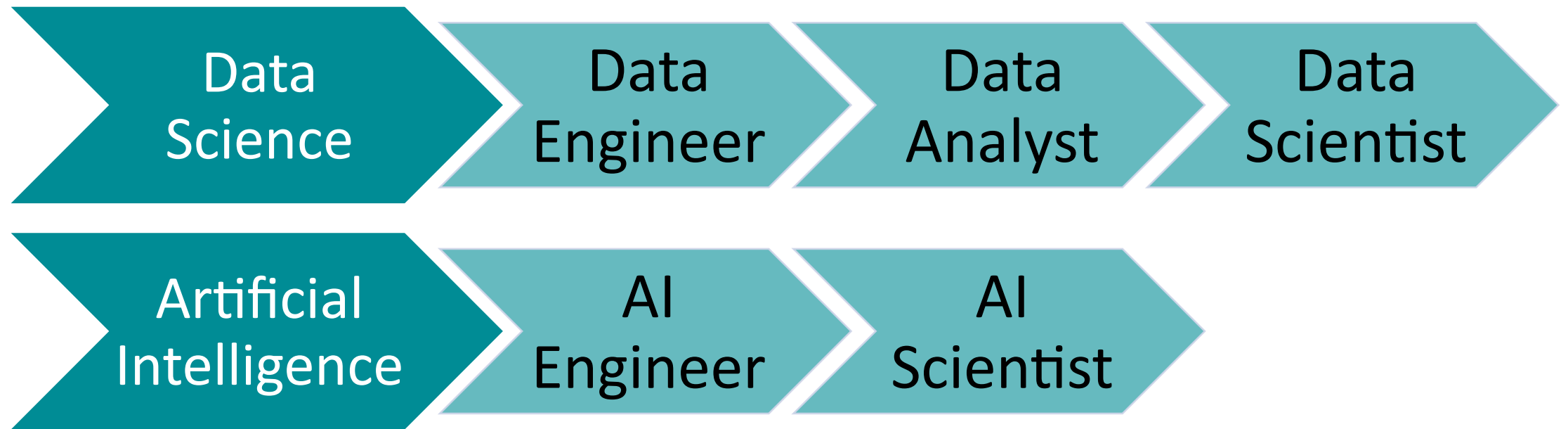
„Computer Expert“



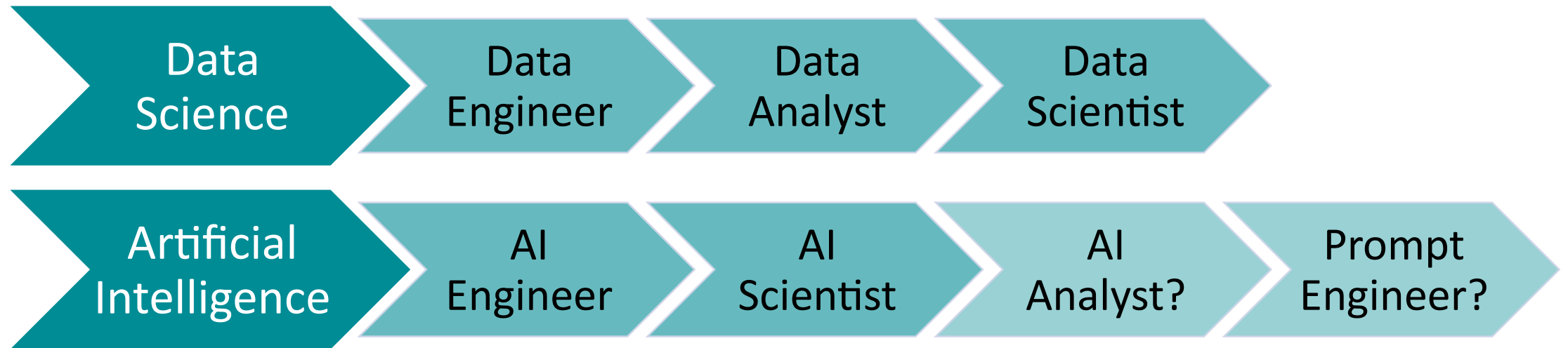
Role Specialisation



Role Specialisation



Role Specialisation

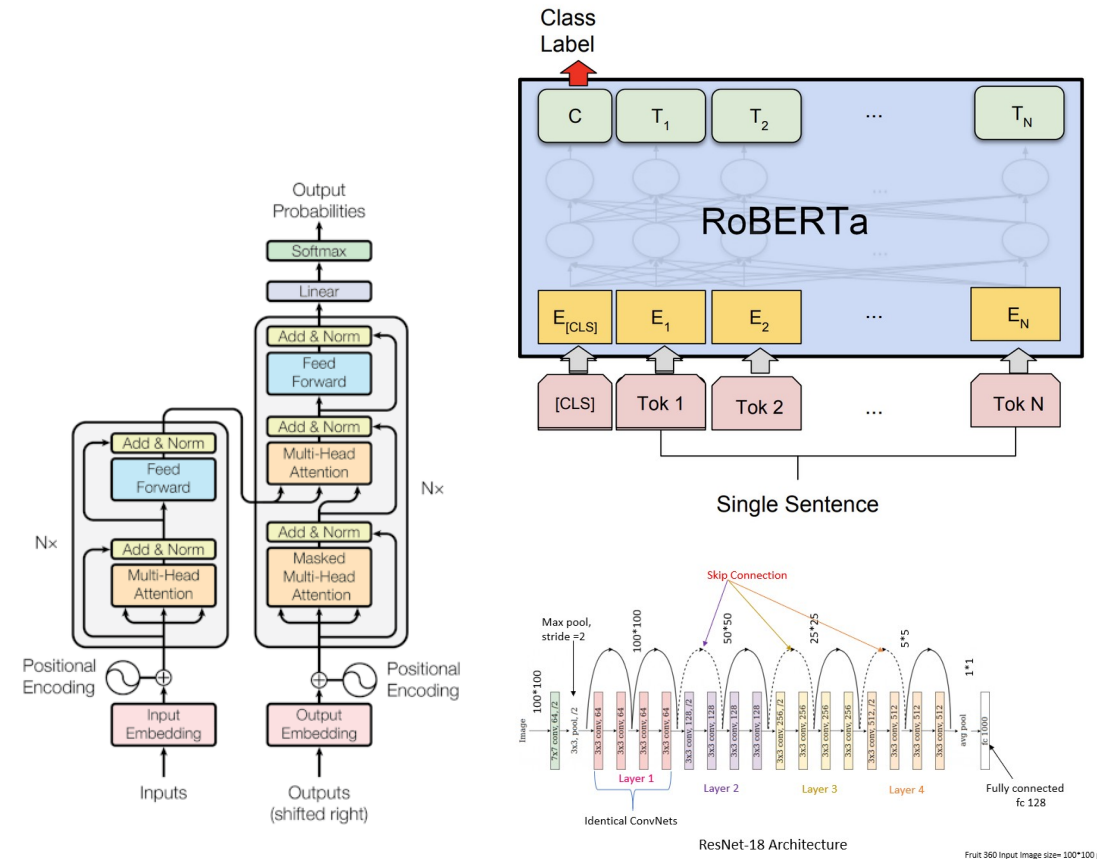


Background

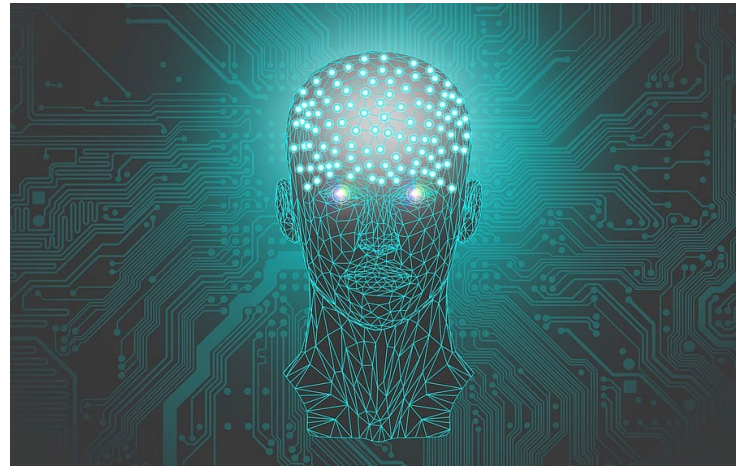


- **De facto standard model architectures**
 - C.f. Classic Algorithms
 - C.f. Design Patterns
- **Transfer Learning**
 - Downloadable pre-trained models (ResNet-18, YOLOv8, etc.)
- **Starting from scratch is rare**
 - Rapidly growing ,library'
 - Best practices to be applied

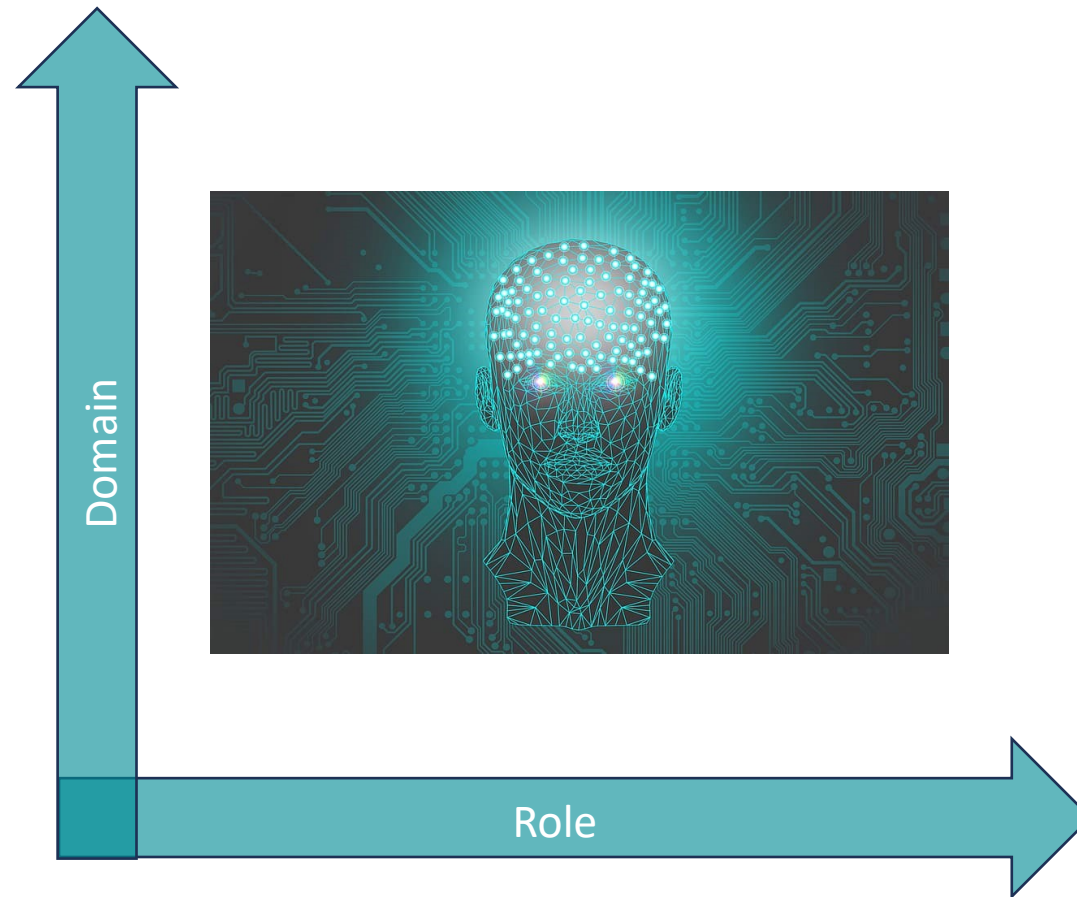
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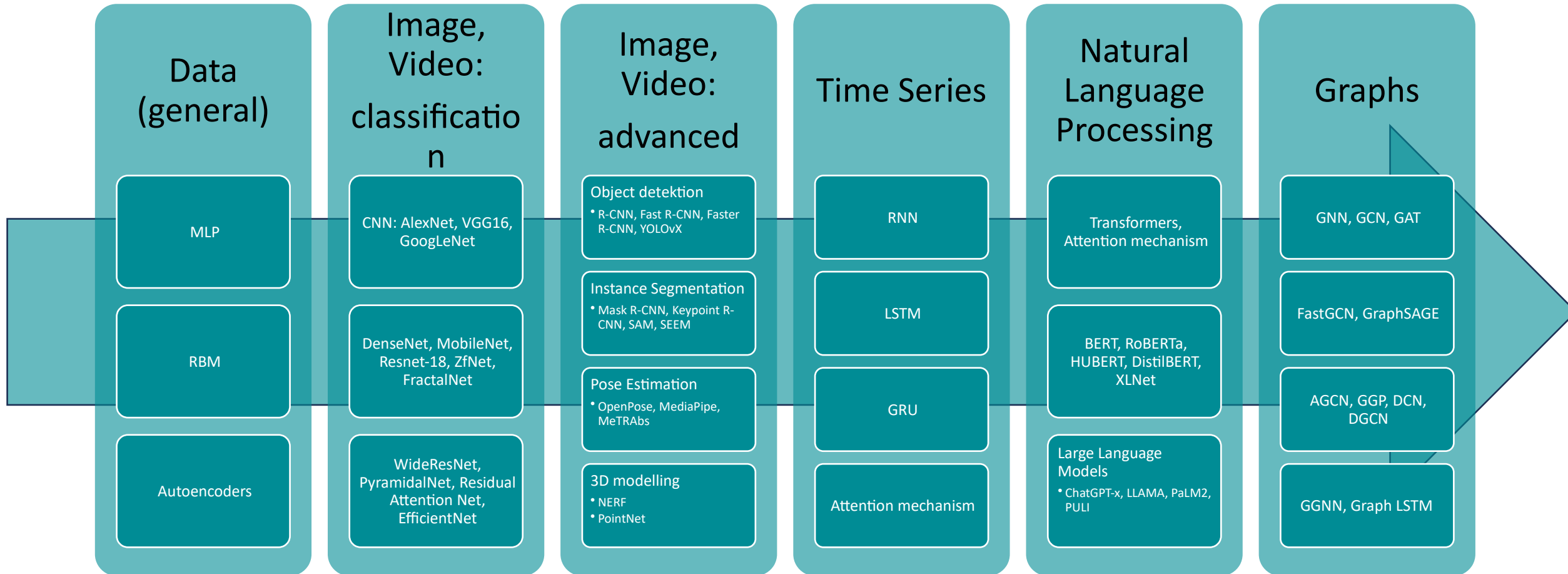
Specialisation



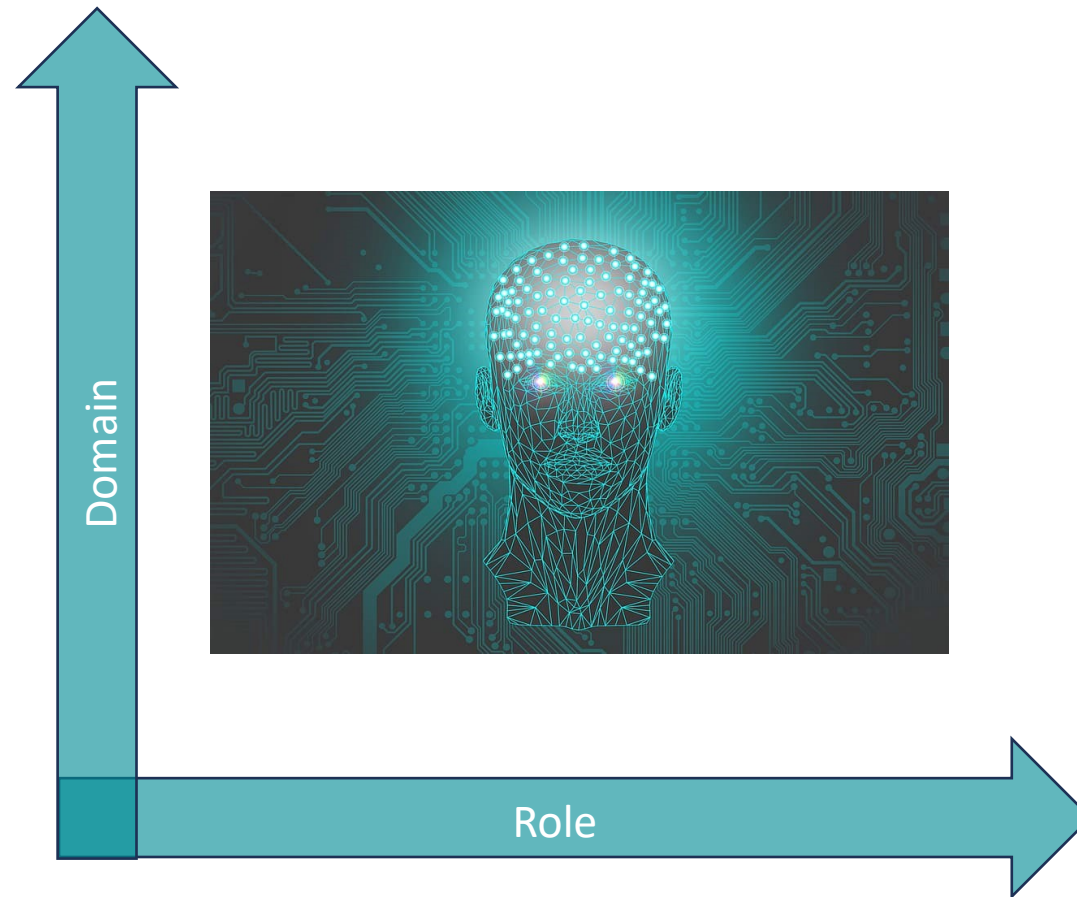
Specialisation



Domain



Specialisation



Implications

Specialisation

Diversified expectations at workplace

Specialised education

AI Engineer

AI Designer

New Requirements

Testing

Proof of Correctness

Explainable Models



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Thank you!

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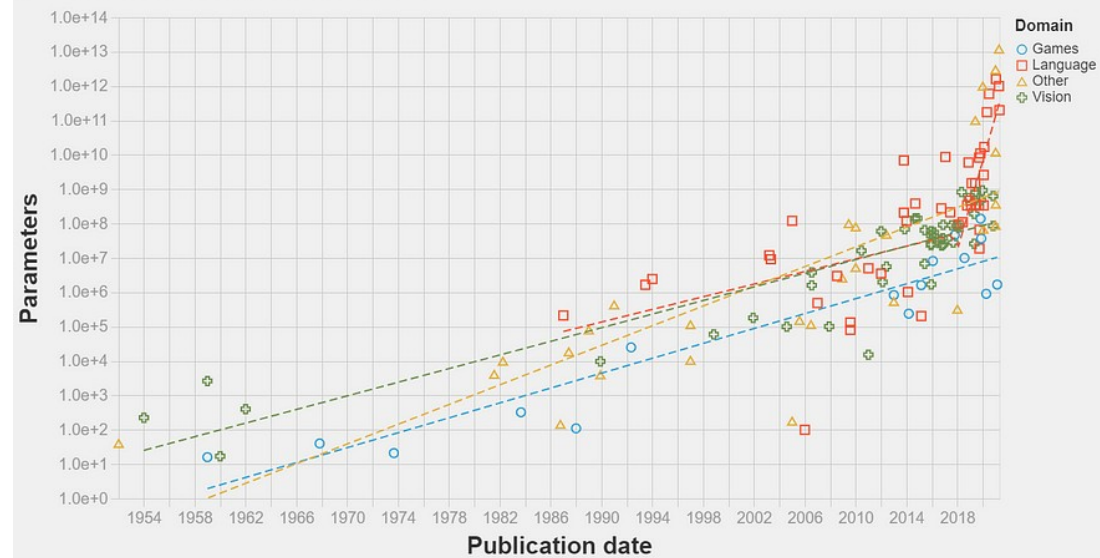
BACKUP



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Parameter count of ML systems through time



Parameter count of ML systems through time

