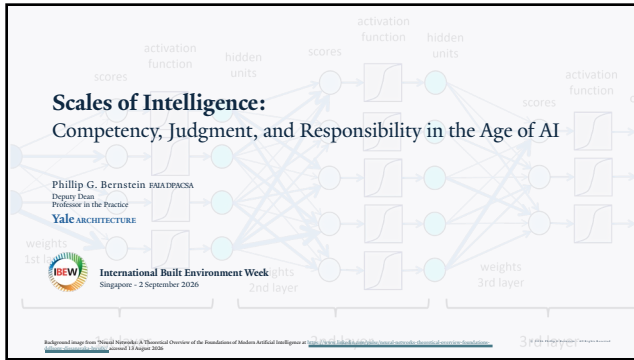
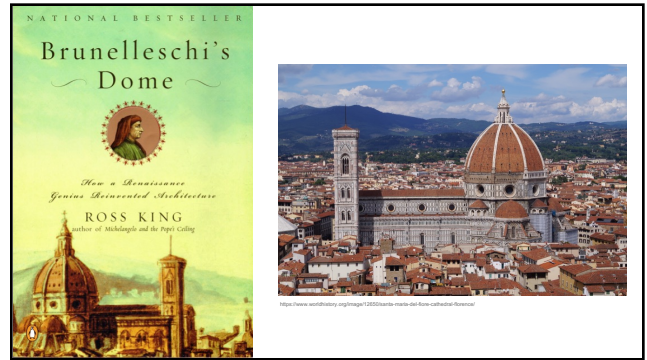
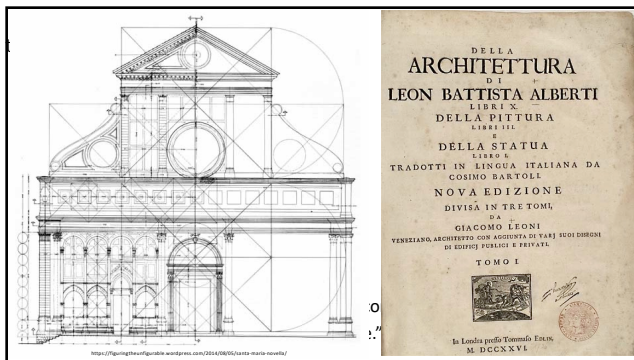




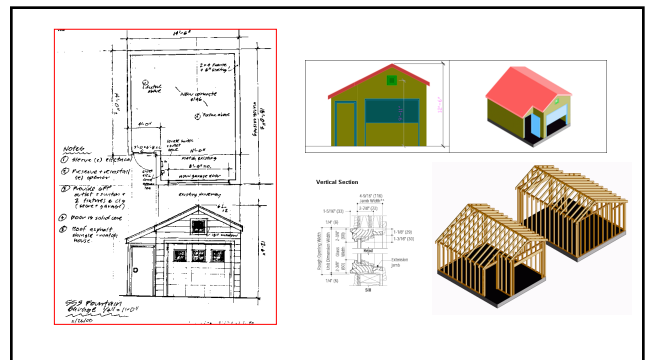
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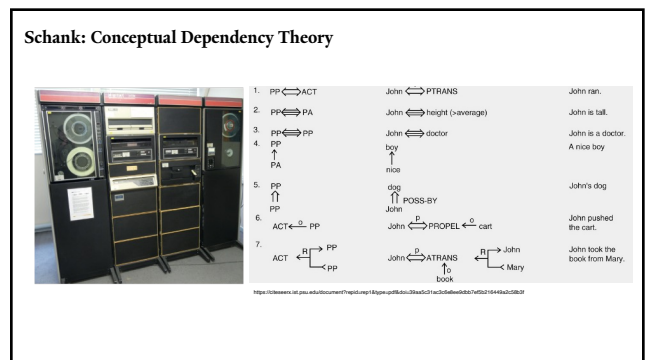
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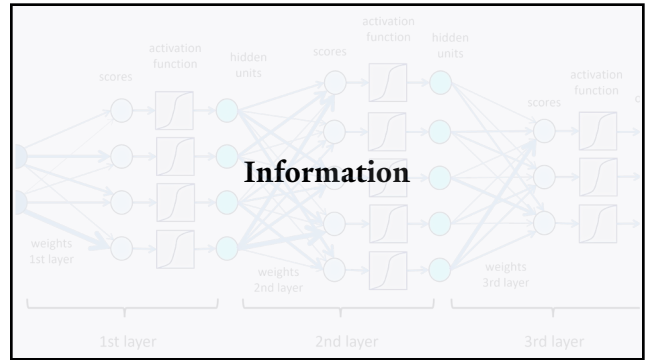
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Authority

(W)e argue that the professions will undergo two parallel sets of changes. **The first will be dominated by automation.** Traditional ways of working will be streamlined and optimized through the application of technology. **The second will be dominated by innovation.** Increasingly capable systems will transform the work of professionals, giving birth to new ways of sharing practical expertise. **In the long run, this second future will prevail, and our professions will be dismantled incrementally.**

The Future of the Professions: How Technology Will Transform the Work of Human Experts (Oxford University Press, 2019) p. 16

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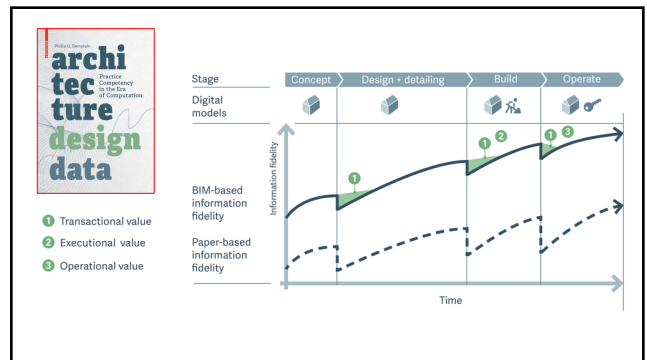


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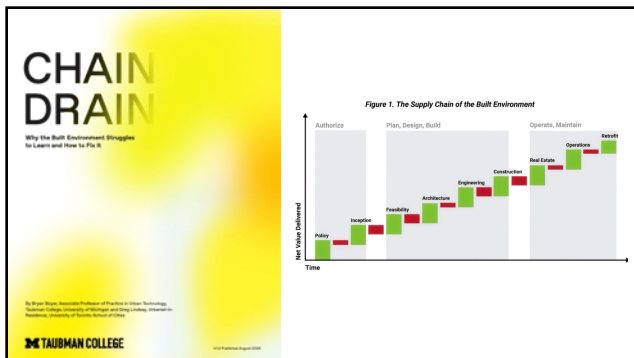
MODELS	ROBOTS	VISION	METHODS	OTHER TECH	ENABLERS	
BIM	AUTONOMY	AR/VR	ADVANCED MATERIALS	ELECTRIC VEHICLES	AI/ML	IoT
DIGITAL TWINS	DRONES UAV	REALITY CAPTURE	MODULAR PREFAB	(TEX) TENANT EXPERIENCE	MOBILE	BLOCK CHAIN
GIS	ROBOTICS	COMPUTER VISION	3D PRINTING	BUILDING MANAGEMENT	COMPUTATIONAL	5G/LTE/WIFI

Source: Machine Learning: Architecture in the Age of Artificial Intelligence (2020, 2020)

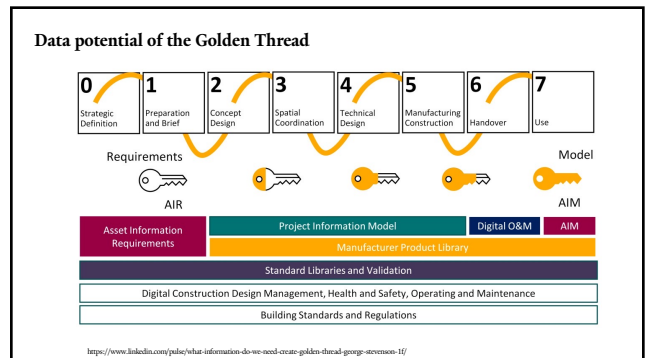
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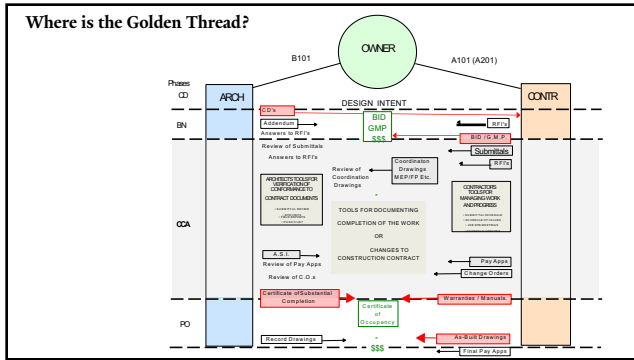
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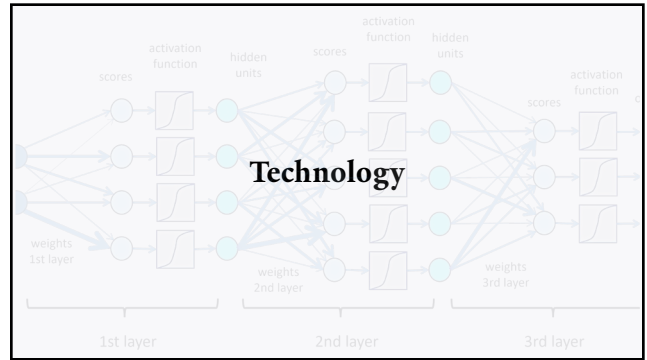
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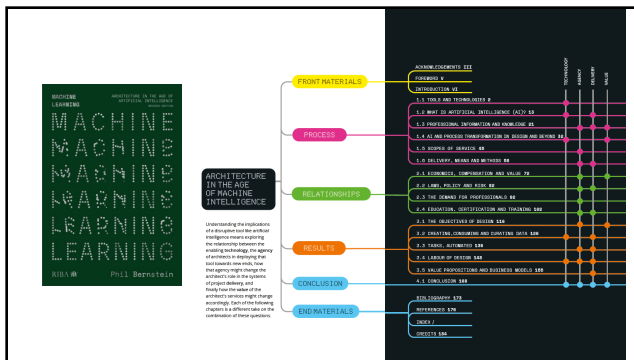
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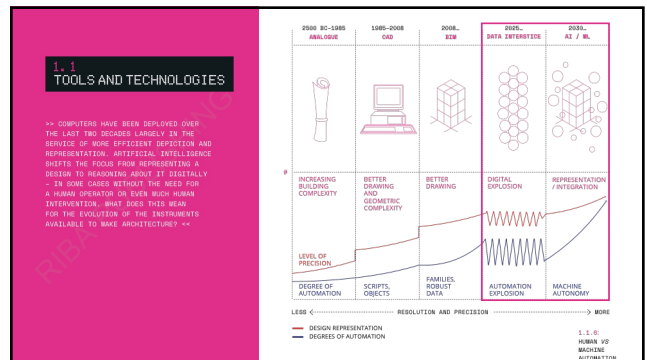
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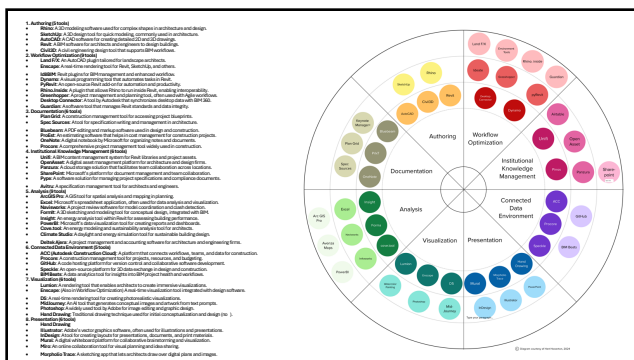
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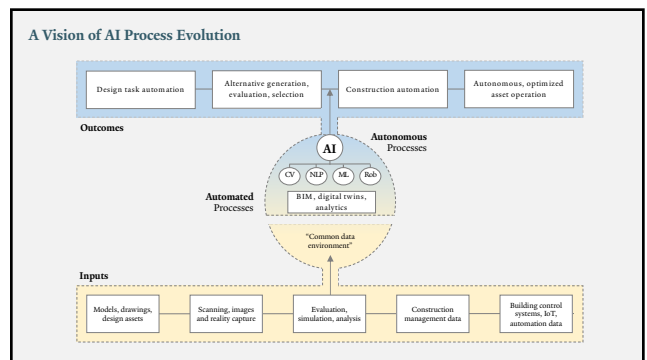
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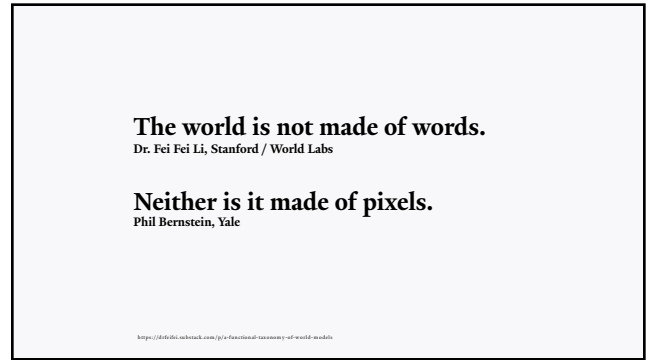
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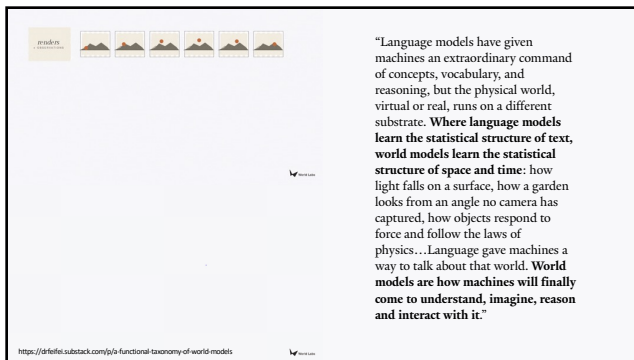
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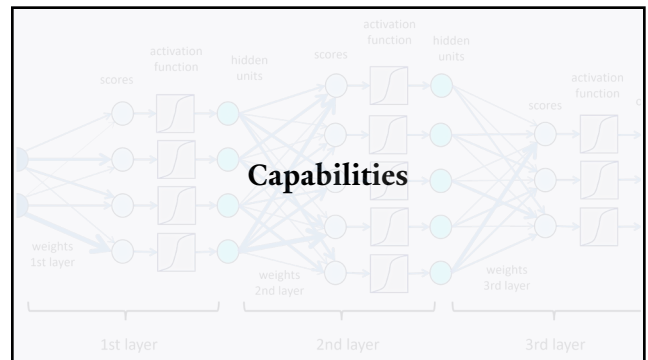
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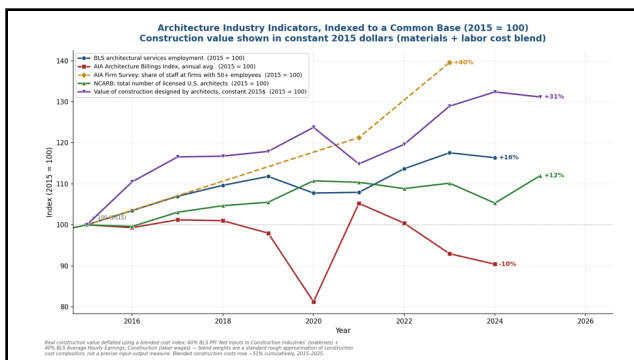
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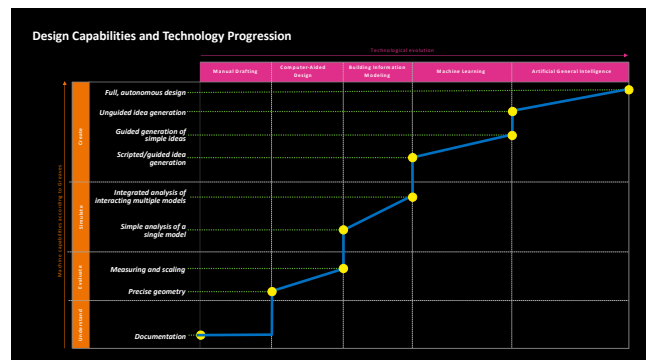
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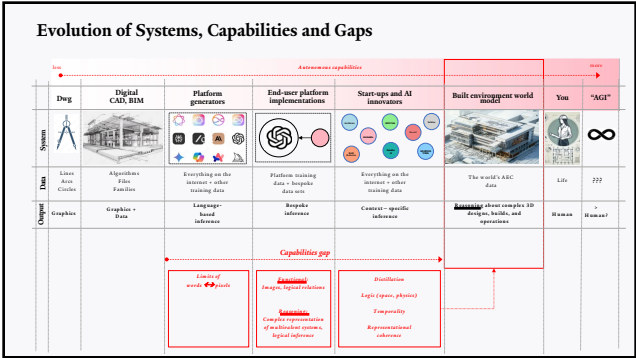
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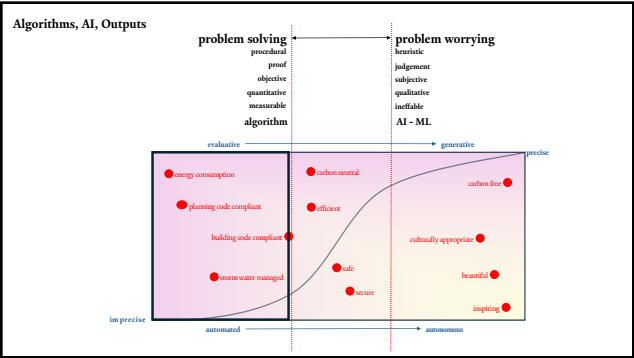
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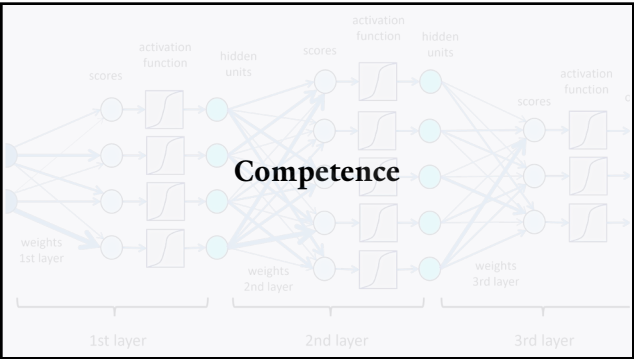
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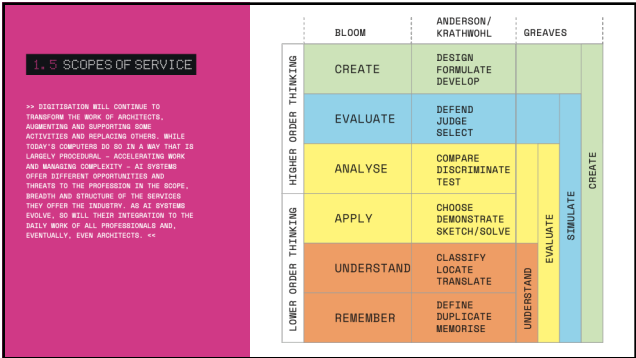
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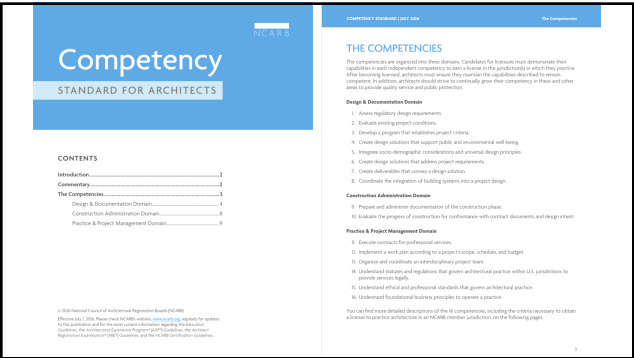
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31

Competence and Culpability

United States: Responsible Control/Charge
 "Responsibility for exercising the ultimate authority over, and possessing the knowledge and ability to oversee, delegate, and integrate the design and technical decisions related to the preparation of the project's instrument of service and the project's implementation in conformance with the standard of care."
 "Exercise full professional knowledge of and control over work... 1. (by having) and exercising the authority to review and to change, reject, or approve both the work in progress... 2. (b) personally aware of the project's scope, needs, parameters, limitations, and special requirements; 3. (b) capable of answering questions relevant to the engineering or surveying decisions... and 4. (a) accept full responsibility for the work."

United Kingdom: Principal Designer
 "The principal designer must – (a) plan, manage and monitor the design work during the design phase; and (b) coordinate matters relating to the design work comprised in the project so that all reasonable steps are taken to ensure that the design is such that if the building work to which the design relates were built in accordance with that design the building work would be in compliance with all relevant requirements."

Singapore: Qualified Person
 "The operative due-diligence standard (s.9(1)(a), design phase): "Every qualified person who is appointed... to prepare the plans of any building works shall – (a) take all reasonable steps and exercise due diligence to ensure that the building works are designed in accordance with... the provisions of this Act." Supervision phase (s.9(4)): "Every qualified person who is appointed... to supervise the carrying out of any building works... shall – (a) take all reasonable steps and exercise due diligence in supervising and inspecting the building works."

32

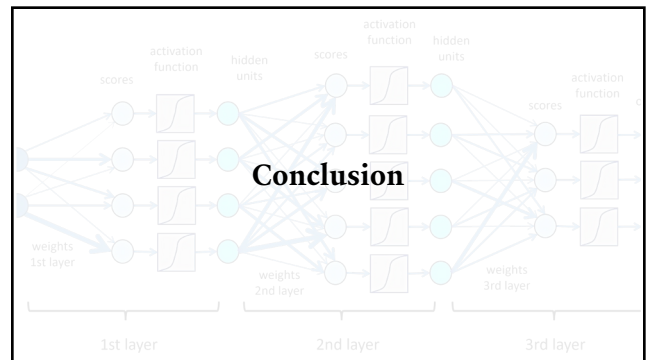
"We can't be certain of either the 'legibility' of the Chain-of-Thought (why, after all, should we expect that words in the English language are able to convey every single nuance of why a specific decision was made in a neural network?) or its 'faithfulness'—the accuracy of its description," the company said in a [blog post](#).
 "There's no specific reason why the reported Chain-of-Thought must accurately reflect the true reasoning process; there might even be circumstances where a model actively hides aspects of its thought process from the user."

("Don't believe reasoning models' Chain of Thought, says Anthropic" at <https://www.semanticscholar.org/paper/Don't-believe-reasoning-models-Chain-of-Thought-says-Anthropic/2024-08-13> accessed 13 August 2026)

("Identifying Chains, Trees, and Graphs of Thought" at <https://arxiv.org/abs/2401.14225v1> accessed 13 August 2026)

("Neural Networks: A Theoretical Overview of the Foundations of Modern Artificial Intelligence" at <https://www.kitware.com/ai-theory/> accessed 13 August 2026)

33



34

Singapore's Industry Transformation

Built Environment Industry Transformation Map (ITM)

corenet FIRST IN THE WORLD One-Stop Integrated Digital Blueprint

IFC Schema Check **Quality Check** **Regulatory Compliance Check**

35

The Future of AEC Professionalism

Creation ↔ Creativity
 Rational ↔ Rationale
 Generalization ↔ Validation
 Actions ↔ Decisions

"AI acts. Humans decide. That's the frontier..."

"AI can accelerate exploration—but it does not choose the problem, define what counts as a solution, or frame the space in which solutions are sought. Those decisions—what matters, what's possible, what's meaningful—still come from human minds."

Nisheth Vishnoi "The Anatomy of Work in the Age of AI" at <https://nishethvishnoi.substack.com/post/anatomy-of-work-in-the-age-of-ai>

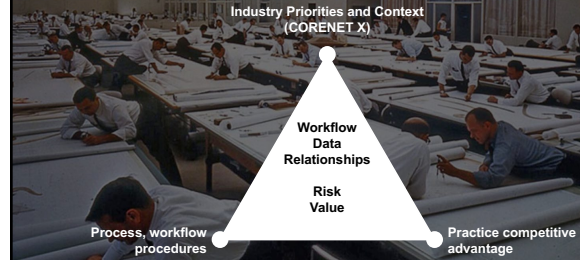
36

The Future of AEC Professionalism

1. What is the limit of today's LLM-based technologies that lack "world model" understanding?
2. As algorithms get more capable, can they be more culpable?
3. Are there different models of responsibility—government, insurers—for professional risk in an AI-enabled AEC environment?
4. How can BIM (and CORENETX) be a bridge to an integrated data and delivery approach?

37

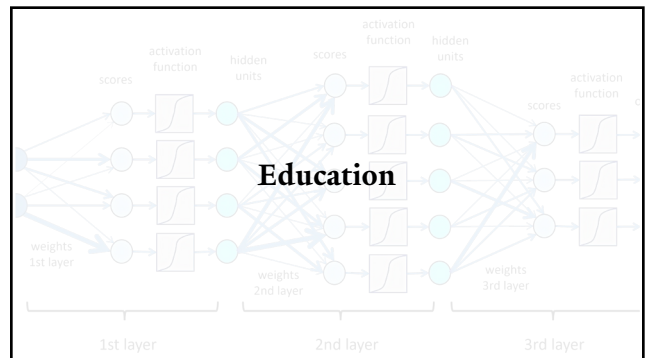
AECO AI Strategy



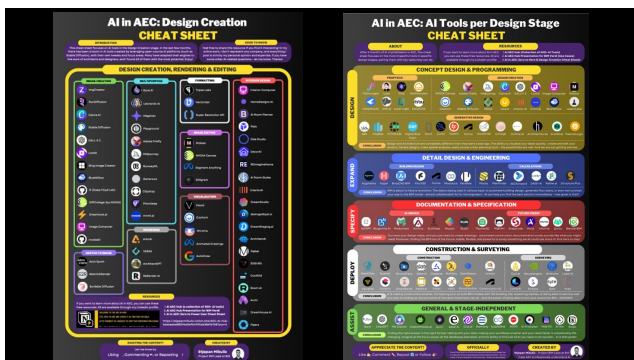
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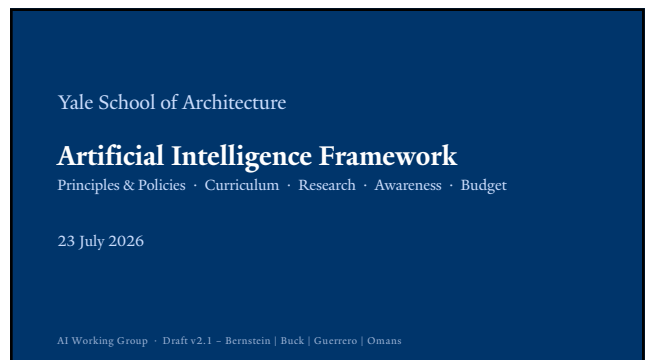
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42

1

Principles & Policies

- AI as tool, not author — the creative voice stays human
- Transparency and attribution are non-negotiable
- Faculty set course policy; students honor its terms
- Model syllabus language: prohibited, refinement-only, or attributed use

43

2

Curriculum

- Embed AI experiments across studios and seminars
- Focus areas: site analysis, envelope, code & costing, urban research, practice
- Research assistants for key courses; faculty grants for new experiments
- Hiring and a practice survey to keep pace with the field

44

3

Research

- Seed grants for work impossible at individual scale
- Provocations across design, history & theory, practice, and urbanism
- AI sharpens judgment — it does not replace the researcher

45

AI Integration Opportunities in the Yale Curriculum

Site & Environmental Analysis

- Efficient LLM-aided data discovery (zoning, hydrology, topography, climate)
- Fine-grained & novel data collection (heat maps, pedestrian flows, related social media posts)
- Rhino site model production

Envelope & Environmental Assessment

- Embodied Carbon assessment
- Energy efficiency assessment (insulation, windows, potentially HVAC)
- Wall section generation or real-time evaluation

Code Compliance & Costing

- More efficient, precise, dynamic, and fast estimating workflows
- Code compliance apps or automated evaluation

Urban Studies & Research

- Skills for collecting and working with large demographic data sets
- Expanding types of data: remote sensing, opinion research, eviction data, etc.

Expanding Practice Models

- Speculating on AI-enabled (or forced) models of design value / modes of practice
- Familiarity with novel uses of AI in practice

Construction & Project Delivery

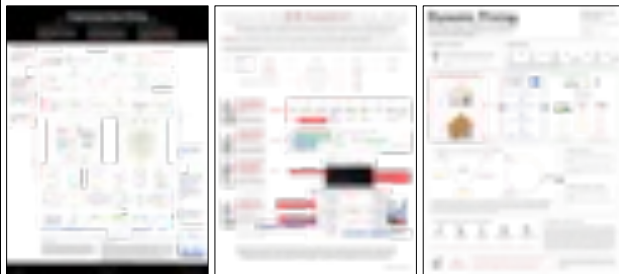
- Expanding construction management knowledge and contracting innovations (and other contextual grounds of practice)
- Efficient AI-enabled & agentic CA workflows/practices
- Understanding changing risks and liability with AI

Research, History & Theory

- Introduce & experiment with novel LLM-enabled research practices
- Identify teaching methods for reading & writing assignments given student AI use

46

Scales of Intelligence – Spring 2026



47



48