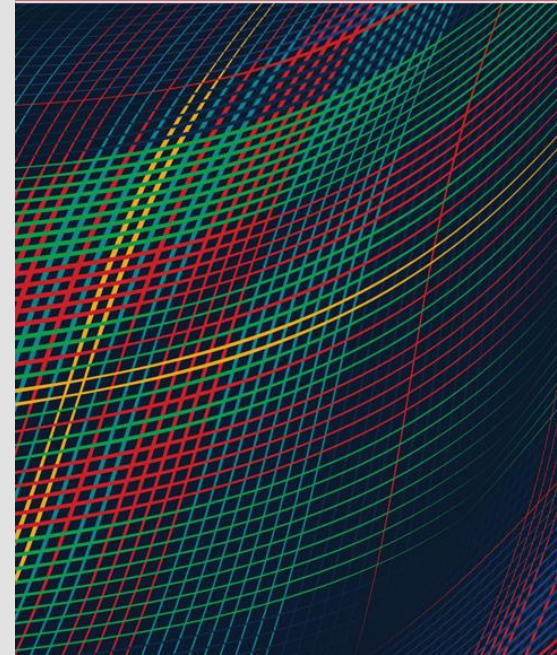


AI and Systems Engineering – Beyond LLMs for Coding

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Weaknesses and Vulnerabilities

Data is code

- Stochastically derived
- Probabilistic semantics

Challenges

- Exactness
- Attach surfaces and vulnerabilities
- Planning and reasoning
- Expert enactment

Partial mitigations

- Excellence in advisory roles

Looking Ahead

Long and bumpy road

- Parallel pathways

Models, formal and semi-formal

- Automation and formalization
- Growth and possibility

Hybrid AI

- Heuristic mashups
- Symbolic hybrids

LLMs subordinated as oracles

- Hypotheses for chain of reasoning

Up the value chain

- Coding and engineering amamuensis
- Test generator and coverage indicator
- Design pattern mining
- Model interactions
- Architecture