



AI-Enhanced Practice Lab

Insight Brief

Reimagine Buildings Collective—SUMMER 2025

AI-Enhanced Practice Lab

Lab Members: Randall Anway, Rayan Ghazal, James Kupferschmid, Galen Staengl, Mike Wong, Sandra Lester, Brendan W., Demian Rybock, and Erik Zeise

What We Learned

There's a lot to absorb. LLMs are limited, especially for space utilization/spatial reasoning and design. Two realms where AI may be used (in the context of the PH community):

1. 'External' information sources used to explore available resources.

Useful for:

- getting ideas
- starting a conversation, first drafts
- finding resources
- learning what you don't want
- research
- starting point for quick investigations (eg, new products, feasibility)

2. 'Internal' where information has been validated and legitimized within a circle of trust (eg, a team, organization, or community) and made available for an AI to use.

For example, the Reimagine Buildings Collective could:

- Sandra suggested that we may collect collective member - posted details and lessons learned in a database
- Potentially could be made available through an AI interface to answer inquiries about products & materials, generate parameter-based

comparisons & identify relevant details, summarize product criteria (quality, cost, regional availability, etc) and lessons learned; a kind of specialized search engine

- Host would need to be indemnified
- Such resources would need to be thoroughly and transparently tested; questions of governance would need to be addressed, including but not limited to:
 - Thinking through procedures and processes
 - Monitoring and addressing issues as they arise
 - Identifying uses and usage limitations

**Caveat: Take generated information with a grain of salt, and validate. LLM use/usage in practice may be problematic for professionals due to liability concerns and responsibility for correct information, especially in the delivery of services and in regards to the need to maintain reputation and trust.*

Observations

Present pitfalls include:

- Transparency - data and training processes
- Cybersecurity - new issues such as hacking.
- Governance
- Insurability, liability, legal implications unclear in relation to data use/ responsibility and ai utilization
- Hallucinations - LLM-generated information can be plausible and convincing but false and/or unattributable.
- Current LLMs poor at/incapable of spatial reasoning - inappropriate for design

We shared an example of an attempt at LLM advising on spatial layout. Use cases are valuable. Certification programs and standards are evolving and are something to keep an eye on. We talked mostly about LLMs; there's a lot we didn't have time to discuss that could also be relevant to the PH community.

Some Practical Notes:

- Can use on desktop to ethically help reduce energy use and carbon footprint. (*Caveat: hardware and software limitations, trade-offs to consider.*)
- Make design adjustments to enhance sustainability and performance monitoring
- Wish there was a generative design tool for modular construction
- This is the way of the future for affordability and sustainability
- Other ways to use AI include:
 - Data driven decision making at the design stage
 - More accurate predictive energy consumption using simulation
 - Optimizing material use
 - Non-service delivery tasks (where liability is less of a concern)

Actions to take:

- Take steps to be informed about the technology and its capabilities that may be relevant to you and your application(s) of it.
- Be aware that the technology is changing and improving. LLMs (eg, chat bots) are only the ‘tip of the iceberg’, and what we’re seeing now is evolving.
- Be both curious and cautious; seek trustworthy & knowledgeable advisors and implementers to help manage risks.
- Consider participating in technology governance activities when/if they emerge & where appropriate for your needs.
- ...

Questions:

Can we set up AI to cite its references? For example internally, may we see the places AI found its answers among the files that we internally loaded? This would be a good way to understand the effectiveness and limitations of AI.