

PEAS for an Urban Planning Agent

After traveling abroad last winter, where I had the opportunity to explore different cities, I couldn't help but reflect on Puerto Rico's predominantly car-centric urban design, finding it somewhat uncomfortable and inefficient. It occurred to me that employing AI could be the key to transforming our public spaces, enhancing our overall quality of life. A notable example comes from the research conducted at Tsinghua University in China, where an AI has demonstrated the capability to outperform human urban planners in generating projects [1]. The potential impact of such AI is immense, with the promise of creating cities that are not only more efficient but also more habitable and sustainable [2].

To measure the performance of this AI, we could focus on evaluating its optimization of resources, efficient utilization of space, and improvements to infrastructure. Furthermore, assessments of accessibility and amenities could provide valuable insights into the overall quality of life experienced by residents. Operating within a model or representation of the real world, the AI would take into account various factors, including geography, climate, existing infrastructure, available resources, and socio-economic considerations. Being a representation of the real world, this environment would be observable, stochastic, sequential, dynamic, continuous, and known.

Given the disembodied nature of this AI, its actuators could manifest as a display through which the AI presents plans and offers recommendations for infrastructure development, transportation planning, and other relevant aspects. Serving as sensors, the AI could employ sophisticated algorithms to read and analyze topographic, traffic, demographic, and other pertinent data, ensuring a comprehensive understanding of the urban environment. This technology could have the potential to revolutionize urban planning, creating cities that not only meet but exceed the evolving needs and expectations of their residents.

References

[1] C. Ghisleni, "Artificial Intelligence and Urban Planning: Technology as a tool for city design," ArchDaily, Feb. 08, 2024. <https://www.archdaily.com/1012951/artificial-intelligence-and-urban-planning-technology-as-a-tool-for-city-design>

[2] C. Chiancone, "Revolutionizing Urban Planning with Generative AI: A New Era of Smart Cities," Jun. 20, 2023. <https://www.linkedin.com/pulse/revolutionizing-urban-planning-generative-ai-new-era-smart-chiancone/>