

Seoul World Model: The First AI That Simulates a Real City

Kabui, Charles

2026-03-18

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Seoul World Model
The First AI That Simulates a Real City

City-scale world simulation grounded in actual street-view data

- 1.2M**
Real street-view panoramas
Anchoring generation to Seoul
- 3 Cities**
Seoul, Busan, Ann Arbor
Validated across real metropolises
- 10K**
Synthetic training videos
From Unreal Engine simulator

March 18, 2026

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NAVER AI Lab and KAIST released [Seoul World Model](#) (SWM), the first city-scale world model that generates video of a real city rather than an imagined one. Given a location, camera path, and optional text prompt, SWM retrieves nearby images from [1.2 million street-view panoramas](#) of Seoul and uses them to anchor each video segment to actual buildings, roads, and landmarks. Cross-temporal pairing forces the model to learn permanent structure

rather than copy transient objects like parked cars. A Virtual Lookahead Sink re-anchors each segment to a reference image further ahead on the route, preventing quality drift over long distances. Tested on [three cities](#), SWM outperforms existing video world models in spatial fidelity and consistency over trajectories of hundreds of meters.

Previous world models produce convincing but fictional environments. SWM generates video of streets that actually exist. Autonomous driving teams can test routes through virtual Seoul before real roads. Urban planners can visualize changes to real neighborhoods. Training combines real panoramas with [10,000 synthetic videos from Unreal Engine](#) covering 431,500 square meters. You can even reshape real scenes with text prompts: summon a tidal wave onto Gangnam or drop Godzilla between actual skyscrapers.

Most generative video research optimizes for visual realism in fictional worlds. SWM reverses the priority: anchor to reality first, then generate. Retrieval over real geospatial data is emerging as the bridge between generative AI and digital twins of actual cities.

Read more: [World Labs' \\$1B bet on spatial AI world models](#)

Sources:

- [Seoul World Model Paper \(arXiv\)](#)
- [Seoul World Model Project Page](#)
- [GitHub Repository \(310 stars\)](#)
- [HuggingFace Daily Papers \(118 upvotes\)](#)

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