URBAN GEO ANALYTICS

Spatial Analysis, AI & Machine Learning

RUE

User Guide

Render Urban Edits

Image and video generation for urban planning and design

v1.0.0



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What RUE does

RUE is a Windows application for urban planners, architects and anyone who needs to show how a place could change. You describe a scene or paint over a photo, and RUE produces the picture or the video on your own graphics card. Nothing you create leaves your computer.

The free version has four tools, in the left menu:

- **Image generation** — a picture of a street, a square or a neighbourhood from a description, in 7 formats.
- **Image edit** — changes a photo with words: add trees, turn a road into a plaza, change a material. Up to two reference pictures can guide it, and a painted mask limits the change to one area.
- **Video generation** — a short video (2 to 5 s) that starts from a picture, or from a description only.
- **First to last frame** — a video that goes from one picture to another: the street today and the street of the project, two seasons, two viewpoints.

All four share one queue: you can line up several runs and let RUE work through them, one after the other.

The right-hand column lists the **on-demand modules** (scenario presets, before / after, tree growth, street furniture and more). They are not part of the free version: Urban Geo Analytics builds them for an organisation, with its own data. Click one to see what it does, and **Contact Urban Geo Analytics** to ask for it.

Before you install

RUE needs a recent Windows PC with an NVIDIA graphics card, about 70 GB of free disk space for its engine, and an internet connection for the first launch only.

Item	Needed	Notes
Windows	Windows 10 or 11, 64-bit	RUE installs for your user account only: no administrator rights are needed.
Graphics card	NVIDIA, 12 GB of video memory at least, 16 GB recommended	RUE is tested on 16 GB (RTX 5080 Laptop). With 12 to 15 GB it installs, but videos are slow or may run out of memory. Other brands are not supported.
NVIDIA driver	Version 525 or newer	RUE checks it before installing its engine.
Disk	About 70 GB free for the engine, on a drive of your choice	The AI models alone take about 50 GB. Your pictures and videos come on top.
Memory (RAM)	32 GB recommended	Not checked. RUE shows how much is in use, bottom left.
Internet	For the first launch only	Used once, to download the engine. After that, RUE works offline.

Installation & first launch (one-time setup)

You install RUE with one installer, then RUE installs its engine (the AI models and the software that runs them) at the first launch, in the background.

Installing the application

- **Run the installer** — double-click RUE-Setup-1.0.0.exe (about 130 MB).

- **Windows shows a blue warning** — the installer is not code-signed, so Windows displays “Windows protected your PC”. It is not a sign that anything is wrong: click **More info**, then **Run anyway**. Some antivirus programs may also warn about RUE: it is a false positive. To avoid the warning, before running the installer, right-click it → **Properties** → tick **Unblock** → **OK**.
- **Choose the language** of the installer (English or Français).
- **Accept the licence** — read the End-User Licence Agreement and tick the box: **Next** stays greyed out until you do.
- **Choose the folder** if you want another one. RUE always installs into a folder of its own: if the folder you pick is not named RUE, it creates a RUE folder inside it.
- **Finish** — a RUE shortcut is added to the desktop and to the Start menu.

Installing the engine (first launch only)

- **Start RUE.** A window “Welcome to RUE” explains that RUE installs its engine (about 70 GB).
- **Click Install the engine**, or **Explore first** to look around the app before installing. The four tools are visible but greyed: nothing runs until the engine is installed.
- **Choose where the engine goes** — the window “Where should the engine go?” proposes AppData\Local\RUE\runtime in your user folder. Click **Change...** to pick a folder on another drive with about 70 GB free, for example D:\RUE. The folder must be new or empty.
- **Check the three lines** — GPU, Folder and Disk each show a green dot when they are fine. A red dot explains what to fix, and **Install here** stays disabled until all three pass.
- **Click Install here.** The window closes and the install runs in the background: the engine panel, bottom left, shows **Installing engine** and a counter such as **24 / 70 GB**. You can keep exploring the app meanwhile.
- **When it is done**, a message “Engine ready” appears and RUE opens its tools.

The download comes from GitHub and Hugging Face and is checked file by file. **Cancel** stops it at once, with no confirmation; closing RUE stops it too. Nothing is lost: the next launch offers **Resume the install**, and RUE continues where it stopped.

Every next time

Start RUE from its shortcut. The engine panel, bottom left, shows **Starting the engine...** for about 40 seconds: **Run** stays greyed out meanwhile, and the estimate next to it reads “the engine is starting...”. When the panel shows **Engine ready**, you can run. No internet connection is needed.

The window

RUE has three columns: the menu on the left, the tool you are using in the middle, and the on-demand modules on the right.

Interface screenshot not supplied in the source guide.

- **Left column** — the four tools under **Create** (marked free), then **About**. RUE reopens the last tool you used.
- **Engine panel** (bottom left, on every page) — a coloured dot and the engine’s state: **Starting the engine...**, **Engine ready**, **Engine error** (hover it to read why) or **Server not responding**. On the right: **Idle**, or the progress of the run in progress (for example **45 %**, or **+2 · 45 %** when two more runs are waiting). Below: **RAM**, the computer’s memory in use.
- **Middle column, left** — the tool’s settings, the **Run** button with an estimate of the time it takes (for example “about 25 s”), and the queue when something runs.
- **Middle column, right** — **Results**: what this tool has made, newest first.
- **Activity** (bottom of the middle column, folded) — click it to unfold RUE’s log: each run queued, started, finished, stopped or failed, and why. **If a run ends without a result, the reason is here.**

- **Right column** — the on-demand modules, each with a lock. **Get your own** and **Contact Urban Geo Analytics** open the Urban Geo Analytics contact page in your browser.

Image generation

Describe a street, a square or a neighbourhood and press **Run**: RUE draws it, in about 25 seconds per picture.

Setting	Choices (default)	What it does
Prompt	Free text	What to draw. Be concrete: the place, the season and light, what people do, the style (“photo”).
Format	16:9 landscape (default), 9:16 portrait, 1:1 square, 3:2 landscape, 2:3 portrait, 4:3 landscape, 3:4 portrait	The shape of the picture. 16:9 makes 1280 × 720 pixels; the other formats are about the same size.
Takes	1 – 10 (1)	How many pictures to make from the same prompt, one after the other.
Seed (empty = random)	Empty (random)	Fixes the random start. The same seed and the same settings give the same picture again. With several takes, a seed N gives N, N+1, N+2...

The example prompt in the box shows the kind of text that works: A tree-lined pedestrian street in a Mediterranean town at golden hour, café terraces, people walking, photo.

RUE remembers what you typed in each tool, also after a restart. A generated picture is a good starting point for the edit and video tools: see “Your results”.

Image edit

Put a photo in **Photo to edit**, write what to change, and press **Run**: about 40 seconds per result. Paint a mask to change only part of the photo.

The settings

Setting	Choices (default)	What it does
Photo to edit	A PNG, JPG or WebP picture (required)	Click the box to choose a file, or drop one on it.
Reference (image 2), Reference (image 3)	Optional pictures	A material, an object or a style to use. Name them in the text as “image 2” and “image 3”, for example “pave the road with the stone of image 2”.
Mask (optional)	**Paint a mask**	The area that may change. Without a mask, the whole photo can change.
What is under the mask	keep it as a guide (default), erase it first	Greyed out until a mask is painted. See below.
What to change	Free text	For example: Turn the road into a pedestrian plaza with trees, benches and light stone paving. Keep the buildings and the light.
Takes, Seed	As in Image generation	

The result has about 1 megapixel (for example 1280 × 720 or 1248 × 832), whatever the size of the photo. The photo is cropped from its centre to the nearest supported shape, so a thin strip at its edges can be lost.

Painting a mask

Click **Paint a mask**: the photo opens over the whole window. **What you paint in orange is the area that will change; everything you leave unpainted stays exactly as it is.**

Control	Key	What it does
Brush	B	Paints the area to change (selected when the editor opens).
Eraser	E	Removes paint.
Size	\[and \]	Brush size, 4 to 300 (60). A ring under the pointer shows it.
Undo	Ctrl+Z	Goes back, up to 10 steps.
Clear		Removes all the paint (Undo can bring it back).
Cancel	Esc	Closes without saving, with no confirmation.
Use this mask		Saves the mask and closes. With nothing painted, it removes the mask.

Back in the tool, the painted area shows in orange over the photo, and the line under the button reads “Only the painted area changes.” **Edit the mask** reopens it; **Remove** takes it away. A mask belongs to its photo: put another photo in the box and the mask is gone.

What is under the mask

- **keep it as a guide** — the AI sees what is under the mask and builds on it. Best to change something: a material, a colour, the layout of a road.
- **erase it first** — RUE first fills the painted area with a blur of the colours around it, so the AI has nothing left to copy. Best to remove something: a car, a sign, a building.

Video generation and First to last frame

Both tools make short, silent videos at 16 frames per second, in 480p (faster) or 720p. A 4-second video at 480p takes about 2 minutes.

Video generation

Give a picture that becomes the first frame (a photo, or a picture made in RUE), or only a description: RUE then draws the first frame itself and animates it. Describe the scene **and the motion**: the camera and what moves.

Setting	Choices (default)	What it does
First frame (optional)	A PNG, JPG or WebP picture	The video starts from it and keeps its shape.
Prompt	Free text (required)	For example: The camera moves slowly forward along the street, people walk, leaves sway in the breeze, soft morning light.
Format (without a first frame)	16:9 landscape (default), 9:16 portrait, 1:1 square	Used only when there is no first frame.
Resolution	480p (faster) (default), 720p	720p takes about twice as long.
Length	2 s, 3 s, 4 s (default), 5 s	
Takes, Seed	As in Image generation	

Without a first frame, the picture RUE draws first is also kept in the **Image generation** results.

First to last frame

Give two pictures: the video goes from the first to the last.

Setting	Choices (default)	What it does
First frame, Last frame	Two pictures (both required)	The video takes the shape of the first frame. If the last frame has another shape, its centre is used.
Motion (optional)	Free text	A few words help, for example: Smooth transformation of the street, the camera holds still, trees grow, people appear.
Resolution	480p (faster) (default), 720p	
Length	3 s, 4 s (default), 5 s	
Takes, Seed	As in Image generation	

Tip: make the last frame with **Image edit** from the first one, so both share the same viewpoint.

The queue

RUE runs one job at a time, on one graphics card, for all four tools: each **Run** joins a single queue, shown under the Run button of every tool.

- **Run / Add to queue** — while something runs or waits, the button reads **Add to queue**. After a click it shows **Added** ✓ for a moment. You can switch tools and add more runs.

- **The run in progress** — its tool, the start of its text and its step (“loading the models...”, “picture 1/3”, “video 1/1: drawing the first frame”...), a progress bar, the time elapsed and a short summary of its settings.
- **Stop** — ends the run in progress. The button reads **Stopping...** at once; the run ends at the engine’s next check, which can take a little while when models are loading. There is nothing to press again. Takes already finished are kept.
- **Waiting** — the runs to come, in order: next, 2, 3... The runs of the tool you are on are highlighted.
- **×** (next to a waiting run) — takes it out of the queue at once, with no confirmation.
- **Clear** — appears when two runs or more are waiting; takes them all out after a confirmation. The run in progress goes on.

The queue lives as long as RUE is open: **closing RUE stops the run in progress and forgets the waiting runs**.

Your results

Each tool lists its own results, newest first. A result made while RUE is open carries a **new** label. Use **Save** to keep a copy in a folder of your own.

Button	Shown on	What it does
(click the picture)	All	Shows it full window, with its prompt. A video plays there with its controls; under the mouse, a video card plays muted. Close with ×, Esc or a click around it.
→ Edit	Pictures	Puts the picture in **Photo to edit** and opens Image edit.
→ Video	Pictures	Puts it in **First frame (optional)** and opens Video generation.
→ First, → Last	Pictures	Puts it in **First frame** or **Last frame** and opens First to last frame.
Save	All	Opens “Save as” in your Downloads folder. Save into Pictures, Downloads or any folder of your own: RUE refuses its own folders, which an update or an uninstall may clear.
Delete	All	Deletes the result for good, after a confirmation (it does not go to the Recycle Bin).

You can also **drag** a picture result onto a picture box of the same tool, for example an edit onto **Reference (image 2)**. Videos cannot be sent or dragged.

Results stay inside RUE, in AppData\Local\RUE in your user folder (one folder per tool: image, edit, video, flf, each with output for the results). Next to each result, a .json file records its prompt, size, seed and date. The masks you paint are kept in edit\masks and are never deleted by RUE.

RUE shows the full path of this folder on its **About** page.

Good to know

- **The first run after a start is slower**: the models load onto the graphics card first (the queue shows “loading the models...”). Later runs start faster.
- **The estimates are a guide**: they were measured on a 16 GB laptop graphics card and do not adapt to yours.
- **One graphics card, one job**: close other programs that use the graphics card (games, 3D or video software, another AI tool, including another ComfyUI) while RUE works. They share its memory.

- **Videos ask the most of the card**: if a video fails for lack of memory, try 480p, a shorter length or fewer takes.
- **Save what you want to keep**: results stay inside RUE until you delete them, but an uninstall can remove them (see "Uninstalling RUE"). Files saved with **Save** are never touched.
- **A run that ends without a result** always says why in **Activity** (bottom of the page): an empty prompt, a missing picture, an empty mask...
- **RUE remembers your settings**, the pictures in the boxes and your masks, tool by tool, also after a restart. It does not remember the queue.

Troubleshooting

Most problems say what to do in their own message. When a run ends without a result, open **Activity** at the bottom of the page: the line starting with "failed:" gives the reason.

Installing the engine

Symptom	What to do
"No NVIDIA GPU found" or "At least 12 GB of VRAM is required"	RUE cannot run on this computer: it needs an NVIDIA card with 12 GB of video memory or more.
"NVIDIA driver ... is too old for this build (needs 525+)"	Update the NVIDIA driver (nvidia.com or the NVIDIA App), then restart RUE.
"... free up space or choose another drive"	Free some space, or click **Change...** and pick a folder on another drive.
"This folder is not empty and was not created by RUE"	Pick an empty or new folder, for example D:\RUE.
"Installation failed": the download was interrupted	Check the internet connection, then click **Retry**: the install resumes where it stopped.
"Installation failed": RUE could not write to the engine folder	An antivirus may be blocking it: allow RUE, then **Retry**, or choose another folder.
"Installation failed": your NVIDIA driver cannot run the engine	Update the driver, then **Retry**.
"Installation stopped"	You clicked Cancel or closed RUE. Click **Resume**.
"RUE cannot find its engine"	Its folder was moved or deleted, or its drive is disconnected. Reconnect the drive and click **Try again**, or **Install again**.

Starting RUE

Symptom	What to do
“Starting the engine...” and **Run** greyed out	Normal for about 40 seconds after each start. Wait for **Engine ready**.
“RUE did not start”, with Retry / Open the log / Change install	Click **Retry**. If the message mentions port 8780, another RUE is open (perhaps in another Windows session): close it first.
“RUE’s files failed their integrity check”	A program file was changed or quarantined, often by an antivirus. Check its quarantine, then reinstall RUE.
“The engine did not start: another ComfyUI already uses port 8191 (python.exe, PID ...)”	Another ComfyUI, without a window, is in the way. End that process in the Task Manager (**Details** tab, the PID shown), or restart Windows, then start RUE again.
“The engine did not start: ComfyUI did not start”	Open comfyui.log in RUE’s data folder (path on the About page) before restarting RUE: it is replaced at each start and says why.
“Missing model files: ...”	Some engine files are missing. Reinstall the engine: on the “RUE did not start” screen, **Change install**, or uninstall and reinstall RUE.

Using the tools

Symptom	What to do
A picture box stays empty after choosing a file	Use a PNG, JPG or WebP picture, at most 16,384 pixels a side and 50 megapixels.
“Choose: Photo to edit” (or another box)	A required picture is missing: fill the box.
“failed: write a prompt” / “write what to change”	The text was empty: write it, then **Run** again.
“failed: the mask is empty” / “painted on another picture” / “outside the part of the photo the edit keeps”	Paint the mask again, on this photo; keep it away from the very edges.
“failed: ComfyUI error: ... out of memory” (or “Allocation on device”)	The graphics card is full. Close other programs that use it, then try 480p, a shorter video or fewer takes.
“failed: the connection to ComfyUI was lost”	The engine stopped. Close RUE and start it again.
“failed: no result after 3600 s” (or 7200 s)	The run took too long. Try lower settings, and close other programs using the graphics card.
“RUE cannot save there.”	Save into Pictures, Downloads or another folder of your own.
“... did not reach RUE’s server: try again in a moment.”	Wait a few seconds and try again.

For anything else, the log electron.log in RUE’s data folder (or **Open the log**) describes what happened. Send it to Urban Geo Analytics with a few words on what you did: it never contains your prompts.

The About page and privacy

The **About** page shows who built RUE, its version (v1.0.0), the engine and graphics card in use, the data folder, the licence agreement in English and in French, and the third-party components with their licences (ComfyUI, PyTorch, Electron, Python and others). The AI models are downloaded from their publishers and remain under their own licences.

Everything stays on your computer: your pictures, prompts and videos, and the AI models that make them, never go on the internet. RUE goes online only once, to download its engine at the first launch. There is no telemetry, no analytics and no account. Only links (website, contact, credits) open your browser.

Uninstalling RUE

Uninstall RUE from **Settings → Apps → Installed apps** (RUE → Uninstall).

- **The engine is always removed** (about 70 GB): only the files RUE installed, in every engine folder it used. Anything else you put in those folders stays.
- **Then one question**: “Also delete RUE’s settings and the images and videos still stored inside the app?” **No** (the default) keeps them in AppData\Local\RUE. **Yes** deletes that folder, with every result you did not save.
- **Files saved with Save are never touched.**

Installing a newer RUE over the old one is an update: it keeps the engine, your settings and your results, and asks nothing.

About

RUE was built by Joan Perez, Kevin Perez and Maurice Stolk, Urban Geo Analytics — Spatial Analysis, AI & Machine Learning.

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References and contact: https://urbangeoanalytics.com/about/ · on-demand modules: https://urbangeoanalytics.com/contact/