

# Rom[AI]nterrotta

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**Abstract.** This contribution presents the outcomes of a three-credit elective course offered at Lawrence Technological University's College of Architecture and Design that involved a week-long travel experience in Rome with undergraduate and graduate students. The course used on-the-fly digital synthetic creations with AI text-to-image and image-to-image generation. The students collectively produced a disciplinary design-fiction tour book for a futuristic Rome, integrated into the city's historical layers. Inspired by the 1978 Roma Interrotta/Interrupted Rome project, the students reimagined the city using AI-informed storytelling to create altered narratives that explored common themes and critical insights. The digital tools allowed students to seamlessly blend AI-generated ideas with photos from the tour, linking historical contexts and contemporary design proposals. The critical use of AI served as a valuable tool in this process, educating designers on the importance of site-specific considerations and capturing the essence of a place through innovative creations informed by their experiences.

**Keywords:** AI, Text-to-Image, Storytelling, Travel Experience, Rome

## 1 Introduction

In 1978, a group of international architects, theorists, and urban designers were challenged to re-imagine Rome for a speculative project called *Roma Interrotta* (Interrupted Rome). Piero Sartogo and Carlo Argan, the mayor of Rome at the time, initiated the project. The motivation emerged from the awareness that contemporary Rome has been homogenously and consistently over-planned. Carlo Argan acknowledged the difficulty of designers and policymakers to "imagine" the city (Argan, 2014), which resulted in a juxtaposition of unsolved contradictions (Puglisi, 2007). Therefore, breaking up the urban plan and assigning it to different designers allowed for the capacity to trigger granular episodic innovations. *Roma Interrotta* was an opportunity to diverge from conventional thinking and undertake the challenge of designing provocative concepts starting from 1748's Nolli Plan, Rome's last cohesive urban drawing (Sartogo, 2014).

*Roma Interrotta* served as a precedent for designing a travel experience aimed at undergraduate and graduate students at Lawrence Technological University's College of Architecture and Design as a three-credit elective seminar that was conducted during spring break in Rome, with an intensive week of site visits. This opportunity sparked a conversation about the significance of international travel for students in 2023 with new modalities for documenting existing conditions of a destination place, traditionally undertaken with the use of a sketchbook. A novel approach to advancing this concept was to encourage students to invest their observations with cross-referential meaning, as was done in the imaginative proposals of *Roma Interrotta*. Notably, the project's most impactful components were not the two-dimensional plans but the perspectival images and collages that envisioned new possibilities and unprecedented scenarios for Rome. This is where contemporary strides in text-to-image and image-to-image AI come into play.

Since July 2022, the widespread accessibility of text-to-image AI generators like Midjourney has disrupted the realm of design, taking its place among the resources of designers and creative professionals. The course's foundation lies in the intention of using text-to-image AI to cultivate episodic contextually grounded digital sketches, enabling the visualization of innovative concepts throughout the urban landscape. Accordingly, the course used Rome as an experimental site to find, ponder, and propose AI-informed storytelling, creating AI vignettes of the moments, experiences, and atmospheres that students found throughout their site visits. Students could use "what ifs" at will, re-editing the city to propose interventions in the same way Rome emerged organically. The proposed outcome was a collaboratively developed fictional tourist book of Rome called Rom[AI]nterrotta, made by architecture, interior design, and product design students. Through this process, the students contributed to the composition of a comprehensive depiction of Rome, incorporating their immediate disciplinary perspectives.

## 2 Objectives and Methodology

Rom[AI]nterrotta is grounded on two foundational objectives. First, learning on-the-fly digital synthetic creations and travel speculations using AI text-to-image and image-to-image generation. Secondly, creating a narratively cohesive outcome in the format of a tour book as a means of amplifying the conditions in which Rome can be imagined. This is not intended to be brought in a spectacular way, but rather, in daily life, as a tourist might find it. The method is relatable to projective design work in the field, with innovation conveyed by the fact that technology and AI platforms are now mobile and ubiquitous.

The tour book Rom[AI]nterrotta offers a possibility for fictional storytelling to an audience of curious future explorers, acknowledging that, for the longest

time, Rome has been an iconic destination for intellectuals, architects, historians, artists, and tourists. Rome's legacy has been sustained for a long enough period for people to understand its context and reputation (Darley, 2008). This pedagogical device is intended as a means to augment the tradition of international students going to Rome to gain insights into the fundamental principles of architectural, social, and planning dynamics underlying Rome's rich heritage.

The design fiction approach served the purpose of generating visuals (Fig. 1) to support a charette-style combination of design and speculation. Borrowing Julian Bleecker's definition, Design Fiction is a "practice of creating tangible and evocative prototypes from possible near futures to help discover and represent the consequences of decision-making" (Bleecker et al., 2022). With the mindset of designers, students freely exaggerated on-site observations and analyses to see how imaginative entities might exist in the world in an altered past, present, and future. The tour book is for a Rome that does not yet exist, seamlessly woven into the pre-existing complex historical layers of the Eternal City.

The course's framework addressed the necessary constraints, enabling students to create and curate the considerable volume of material generated through text-to-image AI in Midjourney. The course was structured into three modules to support the creation of the tour book: required readings, software demos, and on-site presentations.



Figure 1. AI-generated image depicting an evocative Roman atmosphere with warm light, monuments merging with environmental forces, and urban life in motion. Student work by Megan Kaminski.

## 2.1 Building cultural background

The first assigned reading was Francis Bacon's short essay "On Travel," which highlighted the importance of travel as a means of education through experience. In the text from 1908, the author listed recommendations for making the most of a travel opportunity stating that, in order to gain knowledge within a short period of time, one must obtain information from trustworthy sources and collect ample records of the trip so that later reflections inspire more thoughtful actions (Bacon, 1888). The essay was then contextualized to address the democratization of travel in recent decades, facilitated by technological advancements that offer opportunities to explore new knowledge and, in this context, advance the normative architectural journal type.

The second collective conversation within the course originated with "Mapping the Unmappable" by Stan Allen, which explored how architecture exists in a unique space between the autographic and allographic realms. Unlike imitating reality, architecture describes something that does not currently exist, and its representation plays a crucial role in its creation. Architectural representation goes beyond drawing; it combines the built environment with notation (Allen, 2000). This article prepared students for quick capture of ideas and field observations in the event that they might create text-to-image prompts later from these notations.

In the third reading, "The Genius Loci of Rome" by Christian Norberg-Schulz, students gained insights into Rome's structure, morphology, geology, and intricate Genius Loci (Norberg-Schulz, 2019), which involves a complex interplay between history, culture, and sense of place. The text explores how the city blends into nature and the surrounding landscape, often unnoticed from the human perspective. Also, the article highlighted the blurred boundary between interior and exterior spaces, paradoxically conveying the feeling of being enclosed yet connected to the natural world (Norberg-Schulz, 2014). An allegorical understanding emerged from the class conversation, revealing how Rome's development mirrors the spatial relationships of surrounding forces. This reading contributed to a culturally-based approach to envisioning Rome, where AI work was employed to explore the cohesive elements that govern the city's grammar.

Finally, an essay about the history of technology was necessary to frame the technical possibilities of Midjourney in an educational context. "Diffused Narratives" by Andrew Kudless introduced AI technology for the course. The article covers basic terminology to understand the foundational principles of training datasets, generative adversarial networks, latent diffusion, and language models (Kudless, 2022). This reading made students aware of how AI models are trained to manipulate large sets of images by adding noise, identifying patterns within the noise, and iteratively refining them to generate a novel image based on a given text prompt. The dive into the origin of text-to-image AI was fundamental to capturing the meaning and origin of AI-generated

images, which are strange and familiar, new and derivative at the same time, being formed in reason of arbitrarily selected collective knowledge.

## **2.2 Text-to-image generation using Midjourney**

Midjourney was the preferred course software for text-to-image generation primarily because of its integration with Discord, a social digital platform. By operating through a bot command in Discord, the software facilitated real-time interaction with students' prompts and outputs, fostering a social learning environment that encouraged knowledge exchange among peers and immediate dialogues with the instructors. Each student had a dedicated channel in a shared class server, enabling them to take inspiration from one another's work and push the overall communal creativity (Boden, 1998).

This technology is evolving faster than traditional tools deployed in classroom settings. The early semester prepping sessions utilized Midjourney Versions 1 to 4. Subsequently, Midjourney Version 5 became available a week after the travel, allowing students to continue refining their work with improved features. The introduction of the blending function, enabling image-to-image generation, occurred shortly before the trip, providing students with opportunities to expand the potential outcomes, keeping in mind that any photo documentation could be leveraged into sampled resource material for Midjourney blends and text prompts adjustments.

Through iterative processes involving text prompts and blending images, students were able to visually and semantically iterate on elements related to the places they visited (Fig. 2). As a result of an intense week of visits, these elements would naturally merge - especially for individuals visiting Rome for the first time - but the uninterrupted notational prompting exercise contributed to the memorization of the places, enhancing the understanding of their spatial presence and roles within the urban landscape.

The “/imagine” and “/blend” functions created wholly new situations or blending AI ideas with photos captured while touring. AI-generated images were created in situ on-the-fly or delayed using photos, notes, and diagrams captured quickly to allow for more careful crafting at night, between visits, or on the return home. Text annotations from a sketchbook were turned into AI prompts and helped fix in memory the reflections on the tour.

## **2.3 On-site presentations**

The week-long trip to Rome was organized around themes, with days dedicated to baroque spaces, imperial monuments, and contemporary architecture. To enhance the learning experience, each student was assigned a specific site to study for delivering an on-site presentation during the trip. The on-site presentations served as sources for historical context, where students suggested prompts and keywords for others to use in the image-generation process.



Figure 2. Reinterpretation of Saint Peter's Basilica as a Scientific Institution echoing Galileo Galilei's legacy through symbolic sculptures and novel artistic icons. Student work by Ghalib Ghalib.

During the on-site presentations, students had the opportunity to prompt in real time using Midjourney, and the instructors could observe their notes and progress in Discord or physically over the students' shoulders. This facilitated instantaneous feedback and allowed the instructors to provide additional inputs to ensure positive outcomes. By integrating technology and "promptable" observations, the learning process became dynamic and interactive, fostering an enriched and engaging experience for the class.

### **3 Results**

With a week of travel and observation, students synthesized what they saw and learned using the AI design project as a tool to build a wide literacy of places, forms, architectures, theories, and semantic elements. During the time in Rome, each student generated a significant volume of images, ranging from five hundred to a thousand. The students' curatorial task involved the selection of the most resolved and compelling text-to-image outcomes alongside variations or process iterations, emphasizing a methodical and comprehensive approach to their work.

Through AI visualizations, the class distilled Rome's spirit, highlighting the interplay of art, culture, history, and sculpture. Their observations delved into the city's atmospheric essence, experiential qualities, and distinctive materiality. As part of this process, the students proposed speculative adaptive reuse and "cross-programming" scenarios (Tschumi, 1996) to revitalize evocative sites while respecting their historical layers. Urban rituals and festivals were also investigated, shedding light on the pivotal role in shaping Rome's collective identity and daily activation.

#### **3.1 Influence of art, culture, history, and sculpture**

Rom[AI]nterrotta images highlighted and altered key features of the Roman cultural palimpsest across different periods (Fig. 3). Examples of text-to-image generation involved overpopulating classic facades with hyper-ornamental sculptural apparatus. In other instances, a time juxtaposition was created by associating modern everyday life rituals, such as drinking coffee or eating pizza, with the historical iconography of tiles and mosaics. A contemporary symbol of the city, the she-wolf, was reinterpreted as a more dramatic depiction of the founding myth of Rome. In a fictional signature dynamic style by Bernini, a baroque she-wolf delivered a more consistent perspective that captures Rome's violent history. As the student articulated, the AI image stands in contrast to the conventional depictions of Romulus and Remus suckling from a stationary, placid she-wolf. Instead, in an altered reality, the baroque sculpture portrays a multifaceted history characterized by fierceness and survival, encapsulating an empire frequently entangled in conquests and sieges. This alternative portrayal



of a “Bernini sculpture in the Borghese museum of a she-wolf attacking a man while defending two baby boys --v 5” offers a deeper insight into the complex and dynamic nature of the ancient Roman civilization.

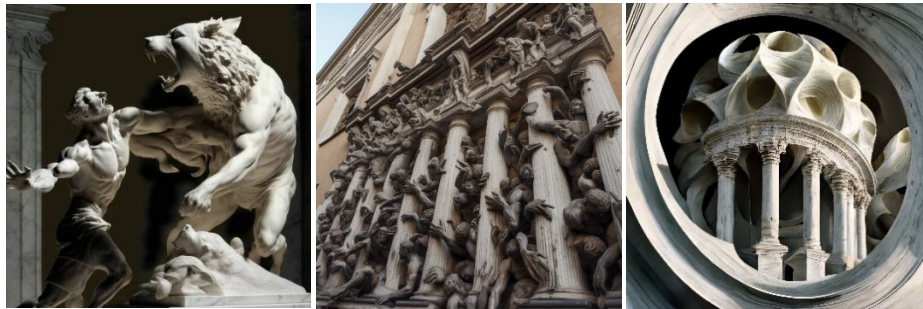


Figure 3. Baroque she-wolf, hyper-ornamental façade, and generative-design inspired classicism. Captions, Student work by Douglas Furia, Nolan Barrios, and Megan Crumrine.

### 3.2 Explorations of the Roman atmosphere, experience, and materiality

When in Rome, students were inevitably immersed in the rich and diverse food culture. This experience inspired them to visualize future-focused trends (Fig. 4) combining the traditional craft of food with transformative tools like digital algorithms, robotic arms, and recipe-making bots. On-site observations at Mount Testaccio revealed how the food culture of Rome is present even in its striations. Testaccio's topography is composed of shards from ancient terracotta amphorae used for oil transportation, which have been deposited on the ground over the centuries. Students conceived a similar stratification process occurring with modern hyperobjects (Morton, 2013) like discarded smartphones, reflecting how contemporary technology influences our anthropocentric cultural landscape.

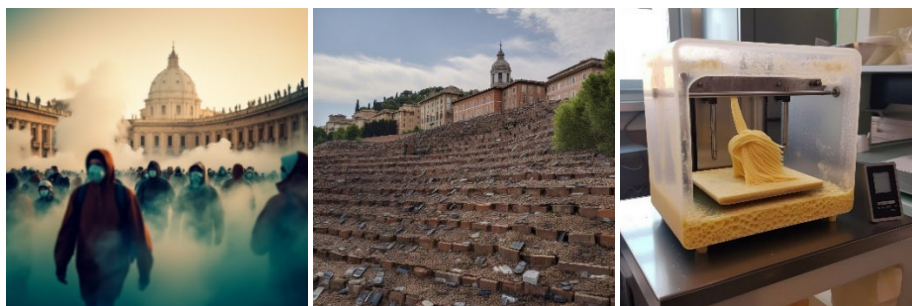


Figure 4. Riots at Saint Peter's piazza after the Second Scientific Revolution, hyperobjects at Mount Testaccio, and technology-augmented Roman cuisine. Student work by Ghalib Ghalib, Nolan Barrios, and Nathan Jacquot.



More atmospheric suggestions emerged after the visit to Saint Peter's Basilica. The symbolic grandeur of Vatican City triggered storytelling that started with a fictional Second Scientific Revolution and the reinstitution of Saint Peter's as a Scientific Institution (Fig. 4). In this vision, members of the revolution orchestrated riots in Saint Peter's Piazza in an effort to take over the establishment. An "army of scientists marching down piazza San Pietro, aerial view, split tone cinematic view smoke --v 3" contributes to appointing a new reference value and system in the hearth of the city.

### 3.3 Proposed adaptive reuse and cross-programming scenarios

Drawing inspiration from Stan Allen's site observation methodology, students envisioned a "fictional present" of Rome (Fig. 5). In this imaginative exercise, they contemplated a scenario wherein the past of Rome coexists with the latest urban stratifications and programming (Allen, 1989). In this speculative city, the Colosseum transcends time and remains a vibrant venue for entertainment and public spectacles. Piazza Navona takes on a dynamic role in hosting boat contests, harking back to ancient aquatic events. Similarly, the Circus Maximus evokes a historical ambiance with intact stands. Such experimental field notes used Piranesi's Campo Marzio as a reference project, which was dedicated to reconstructing ancient Rome and exploring the interplay between individual city fragments and the overall urban configuration. By constructing this historical continuity, the students opened up avenues of creativity and exploration. For instance, the Pantheon transformed into a futuristic venue for e-games, while the Baths of Caracalla found new life as a restaurant, a modern spa, or a "rock climbing wall inside of the ruins of Caracalla in Rome with the original mosaics, natural rock, unsplash, people climbing the wall with ropes --v 5". In selectively unwinding history, these concepts both negated and affirmed the presence of the past, forging cross-programmed, alternative pathways for Rome's potential future.



Figure 5. Baths of Caracalla reimagined as a gathering place and a contemporary spa. Colosseum brought back to its original function as a scenic arena for events. Student work by Jakeb Jackson, Kathryn Winterscheidt, and Douglas Furia.

### 3.4 Investigations into urban rituals and festivals

The Roman experience was conveyed through tangible entities, such as historical landmarks, and intangible visual elements, exemplified by street and monument illumination (Fig. 6). Some Rom[AI]nterrotta images delved into the urban quality of light reflections, investigating their interplay with the mobility infrastructure and the stratified urban fabric (Scott Brown et.al., 1984). In this instance, the radical proposal by Robert Venturi for the *Roma Interrotta* initiative was taken as a reference, provoking to envision a scenario of intense car circulation alongside the Trevi Fountain or Piazza Navona. The latter is also an object of interest for Christian Norberg-Schulz, who refers to it when describing Rome as “a city where one feels inside while being outside”, with piazzas serving as urban interiors (Christian Norberg-Schulz, 2014). Particularly, Piazza Navona epitomizes this concept, creating a sense of being “really inside” since the outdoor space feels as if it is enclosed. This unique setting inspired the conception of the yearly “Soggiorno Film Festival as an outdoor living room, people bring their own couches and comfortable seating for a film festival projected on a big screen, living room for the city --v3”. During the three-day festival, residents are encouraged to bring their own couches or comfortable seating to the piazza for film screenings. Additionally, colorful artwork is projected onto the three fountains, enhancing the cinematic experience within this urban space.

Roma[AI]nterrotta results in a collection of AI-generated images, iterations, text prompts, process information about the software features utilized, and conceptual narratives. All the material was assembled into a tourist book and cohesive storytelling that highlighted the individual points of view informed by collective experience.



Figure 6. Rome's piazzas as urban interiors, car traffic nearby the Trevi Fountain echoing Robert Venturi's proposal for the *Roma Interrotta* project, and a vending machine e of marble putti. Student work by Douglas Furia, Ellyse Town, and Matthew Ruiter.

## 4 Discussion

The Rome travel experience used Midjourney to generate altered narratives aimed at establishing a deeper understanding of the city, linking common or critical themes as an individual diary of the travel and leveraging subjects that emerged collaboratively among the group as a whole. Students synthesized their observations into images in real time. As an initial guideline, students were tasked to imagine new episodes of the city in the present and projected into the future. However, occasionally, they reinterpreted iconic monuments extrapolating their nature of “objects in field” as emerged in Piranesi’s depiction of Campo Marzio (Tafari, 1979). In this way, students tweaked buildings and cultural artifacts’ histories to imagine their existence in a different present or suggest an alternative path that brought them into the modern days. These divergences created tension between architecture and the city, as well as a contrast between the desire for episodic formal explorations and greater urban order.

In previous versions of this course, a sketchbook was required and was viewed as a learning device (Evans, 1997). However, the democratization of text-to-image AI image generation encouraged a shift from analog sketching, which was focused on geometry instead, to on-the-fly digital synthetic creations. This process produced disciplinary insights into the educational possibilities that extend beyond the limitations of physical sketchbooks, a recurring prop within design disciplines. While hand-drawn sketches serve as diagrams of ideas, AI-generated images possess the capability to embody more qualities, such as dynamic concepts, moods, colors, texture, and intricate details - characteristics that sketches may not fully capture. AI-generated images are not limited by the artist’s technical skill or personal style but result from algorithms trained on a massive dataset of images. Therefore, beginning design students need not put off the production of experiential depictions until they achieve the skills that come after many years of drawing.

The project Rom[AI]interrotta embraced a quick and iterative method, exploring the creation of rich, high-resolution, expressive images through text prompts. Over ten thousand images from the group were selected and curated to compile a sequence of chapters narrating an imagined Rome. Such iterations of the course material would have been nearly impossible to achieve within the constraints of traditional week-long sketched observations on paper. Quality in student work emerged from the quantity of images produced quickly then through careful curation and selection of the most impactful ones. Students took the *Roma Interrotta* challenge as their own in 2023. They re-imagined the city with a contemporary lens, using digital tools and any “what ifs” or alibis needed to weave compelling and evocative proposals into the complex history of Rome, often called a palimpsest because of the layers that exist and protrude through one another. In the course, the critical use of AI was addressed as a tool for undertaking disciplinary investigations to link histories and educate designers on the importance of particular sites. Since designers and architects operate in

the future through the creation of projective projects in places that don't yet exist, nothing helps to capture the essence or memory of a place as creating something new that is informed by that experience. This process liberated creativity and fostered a profound learning of the city's historical context and its potential for transformation and reinvention.

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