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RECONSTRUCTING THE MAN OF THE SHROUD: A MULTI-YEAR DIGITAL AND 3D ARTISTIC PROJECT

RECONSTRUINDO O HOMEM DO SUDÁRIO: UM PROJETO ARTÍSTICO DIGITAL E 3D DE VÁRIOS ANOS

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ABSTRACT – This paper documents a personal, multi-year attempt (2022–2025) to **reconstruct** how the man depicted on the Shroud of Turin might have looked in life. The work began with 2D experiments using freely available image-editing apps and gradually expanded into an AI-assisted workflow, culminating in photorealistic facial reconstructions, simulated multi-angle views, and a three-dimensional bust suitable for 3D printing. Throughout, the reconstructed face was constrained by (1) the geometry visible on high-resolution Shroud photographs and (2) historical scholarship on first-century Judaean appearance. A key practical device was an *overlay technique* in Inkscape: the evolving reconstruction was repeatedly superimposed on the cloth image and adjusted by eye so that major facial landmarks remained visually aligned. This qualitative feedback loop kept the artwork tethered to the 2D signal without claiming any numerical precision or scientific validation. AI image generators (ChatGPT with DALL-E, Gemini, and others) supplied varied starting faces but never produced a directly usable result; every output required extensive manual repainting, correction, and re-alignment.

To avoid confusion, the paper adopts a strict vocabulary: **reconstruction** refers to the whole endeavour to imagine the living man of the Shroud within historical constraints, while **visualization** refers to the images and sculptures that result from that process. The project is presented transparently as an artistically driven, historically

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

informed reconstruction, not as forensic proof or a scientific facial identification.

KEYWORDS – Shroud of Turin, facial reconstruction, AI-assisted art, historical visualization, 3D printing, devotional sculpture

RESUMO – Este artigo documenta uma tentativa pessoal, que durou vários anos (2022–2025), de reconstruir a aparência do homem retratado no Sudário de Turim em vida. O trabalho começou com experimentos em 2D usando aplicativos de edição de imagens gratuitos e gradualmente se expandiu para um fluxo de trabalho assistido por IA, culminando em reconstruções faciais fotorrealistas, simulações de vistas multiangulares e um busto tridimensional adequado para impressão 3D. Ao longo de todo o processo, o rosto reconstruído foi condicionado por (1) a geometria visível em fotografias de alta resolução do Sudário e (2) estudos históricos sobre a aparência dos judeus do primeiro século. Um recurso prático fundamental foi uma técnica de sobreposição no Inkscape: a reconstrução em desenvolvimento foi repetidamente sobreposta à imagem do tecido e ajustada manualmente para que os principais pontos de referência faciais permanecessem visualmente alinhados. Esse ciclo de feedback qualitativo manteve a obra de arte vinculada ao sinal 2D, sem reivindicar qualquer precisão numérica ou validação científica. Os geradores de imagens de IA (ChatGPT com DALL-E, Gemini e outros) forneceram rostos iniciais variados, mas nunca produziram um resultado diretamente utilizável; cada resultado exigiu extensa repintura, correção e realinhamento manuais. Para evitar confusão, o artigo adota um vocabulário rigoroso: **reconstrução** refere-se a todo o esforço para imaginar o homem vivo do Sudário dentro das restrições históricas, enquanto **visualização** refere-se às imagens e esculturas que resultam desse processo. O projeto é apresentado de forma transparente como uma reconstrução artisticamente orientada e historicamente informada, não como prova forense ou identificação facial científica.

PALAVRAS-CHAVE – Sudário de Turim, reconstrução facial, arte assistida por IA, visualização histórica, impressão 3D, escultura devocional

Introduction

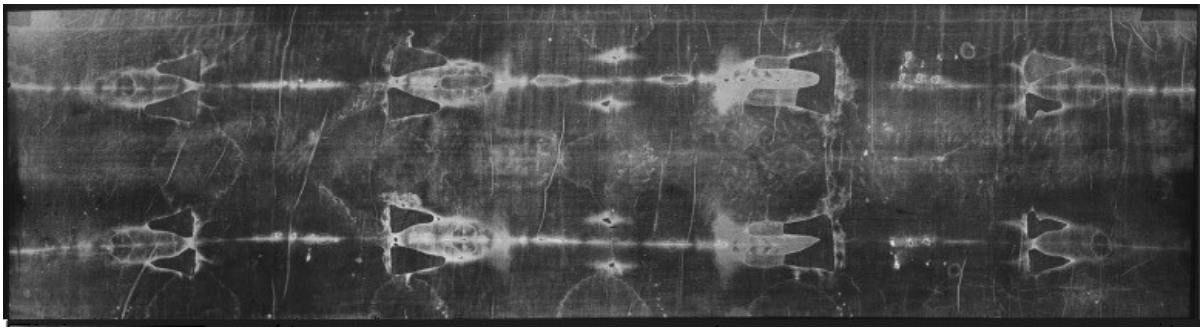
The Shroud of Turin as Facial Source

The Shroud of Turin is a rectangular linen cloth of about 4.4 × 1.1 m that shows faint images resembling the front and back of a

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

crucified adult male. The image includes markings interpretable as scourge lesions, punctures on the scalp, and a post-mortem side wound. Scientific and popular attention intensified after Secondo Pia's 1898 photographs revealed that the cloth face appears much clearer when viewed as a photographic negative.[1]

FIGURE 1



Secondo Pia's 1898 negative photograph, showing enhanced facial detail in negative form.

Whatever position one takes on authenticity, the cloth presents a demanding technical challenge: how to move from a low-contrast, damaged, quasi-monochrome face on linen to a coherent, living human visage. The debate over the Shroud's origin has intensified since the 1988 radiocarbon dating placed the linen in the medieval period (1260-1390 CE) (DAMON, 1989, p. 611-615), though subsequent research has questioned the sample's representativeness and proposed alternative dating methods.

Project Origins and Primary Goal

In 2022, an experiment with an online sharpening service applied to a Shroud face photograph unexpectedly improved the readability of the features. Nose, eye region and beard began to stand out, suggesting the image might support a more systematic reconstruction. What began as curiosity soon turned into a long-term project.

The **primary goal** was:

1. To reconstruct, as responsibly as possible, what the *man of the Shroud* might have looked like when alive, using digital tools and AI as aids.

[1] Shroud of Turin Education and Research Association. Examining the Shroud of Turin. Available at: https://www.shroud.com/examine.htm. Accessed: 13 Nov. 2025.

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

2. To extend this 2D reconstruction into approximate multi-angle views.

3. To translate the result into a three-dimensional bust and 3D-printable sculpture for devotional and educational use.

From the outset, this was understood as an **artistic reconstruction under historical constraint**, not as a forensic identification. Still, the project sought internal coherence: every visible choice in the reconstruction should be traceable either to the cloth signal or to historically grounded parameters derived from scholarship.

FIGURE 2

Early sharpening of the facial sector: a mottled, low-signal source becomes more legible.

How the Project Is Documented

This paper is written in the language of practice-based and practice-led research (CANDY. EDMONDS, 2006; SMITH. DEAN, 2009) while remaining honest about its status as a personal art project.

As reconstruction-driven art: The work was sustained outside institutional structures, motivated by the desire to "meet" the man of the Shroud face to face. Years of iteration were possible precisely because the project was personal and devotional.

As historically informed practice: Artistic decisions were constrained by research on first-century Judaean appearance (Section 2) and by existing forensic and

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

iconographic interpretations of the cloth.

As technical documentation: Tools, prompts, and workflows are described in enough detail that other artists can adapt or critique them. The technical narrative is not offered as an experimental protocol but as a documented reconstruction practice.

As cultural production: The move into 3D printing acknowledges that images do not live only in academic discussions; they become devotional objects, teaching tools, and media assets. Section 6 addresses the ethical questions that arise once the reconstruction leaves the screen.

The aim is not to claim a rigid "research" label, but to offer a transparent account of how one person tried to reconstruct the man of the Shroud using contemporary tools and historically grounded constraints.

Levels of Confidence in the Reconstruction

To avoid overstating what the images can claim, the project is organized around a simple **confidence hierarchy** referenced throughout the paper:

- **Level A – High-constraint elements:** 2D placement of major facial landmarks (nose axis, eye spacing, mouth position, beard outline) taken directly from high-resolution Shroud photographs (JACKSON et ali., 1984).
- **Level B – Historically constrained elements:** overall phenotype (skin tone range, hair texture, eye color range, body build) drawn from first-century Judaean research.[3]
- **Level C – Interpretive extrapolations:** details such as degree of facial swelling, exact hair length within a plausible range, minor asymmetries, and expression.
- **Level D – Low-confidence depth and 3D decisions:** anything requiring information not present in the cloth's 2D projection (cranial depth, exact nose projection, back of head, and full bust design).

Sections 2–3 mainly operate at Levels A–C. Section 4, which introduces three-dimensional work, moves decisively into Level D and is treated explicitly as the most speculative phase.

Historical constraints on the reconstruction

Before substantial digital work began, research into first-century Judaean appearance was undertaken to establish a guardrail against simply projecting modern or

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

Eurocentric expectations onto the cloth.

Appearance Parameters from Joan Taylor and Related Work

The primary historical reference is Joan Taylor's *What Did Jesus Look Like?* (TAYLOR, 2018). Synthesizing archaeological, textual and iconographic evidence, Taylor sketches an "ordinary Judaean male" of the period: roughly 165 cm in height; olive-brown complexion (Fitzpatrick III–IV); thick black hair with natural wave or curl, worn at moderate length; brown eyes; and a lean, work-hardened build. Taylor stresses the lack of early sources describing especially long hair or a strikingly unusual face. Later iconography added many of the features now instinctively associated with Jesus. For this reconstruction, Taylor's profile served as the default template for Level B decisions.

Why These Constraints Are Operational, Not Decorative

Historically grounded parameters were not treated as decorative footnotes; they directly shaped the reconstruction workflow:

– Prompts to AI systems explicitly required *olive-brown skin*, *dark brown eyes*, and *black, wavy hair at moderate length*.

– Faces drifting toward pale skin, light eyes, or North-Western European bone structure were not used.

– The goal of an "ordinary" appearance acted as a brake on both idealization and severe stylization. The face was meant to read as a recognizably Jewish artisan-teacher, not as a romantic hero or a generic movie Messiah.

The next section shows how these historical constraints were fused with the 2D cloth geometry through the digital process.

Digital facial reconstruction (2D): 2022–2024

Phase 1: Initial Discovery (2022)

The first phase used simple online tools to test whether any usable facial structure could be coaxed out of the cloth image. A facial crop from Vernon D. Miller's 1978 STURP documentation served as the main source.[2] These high-resolution photographs, available through the Shroud Photo Archive,[3] provided the

[2] Shroud of Turin Education and Research Association. Examining the Shroud of Turin. Available at: https://www.shroud.com/examine.htm. Accessed: 13 Nov. 2025

[3] . Shroud Photo Archive (Mark D. Evans, Barrie Schwortz, and others). High-

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

foundational visual data for all subsequent work.

FIGURE 3

Vernon D. Miller (STURP) source photograph, facial region, 1978

Repeated cycles of contrast adjustment, sharpening, and manual retouching gradually clarified the basic form of nose, brow line, mouth, and beard. These early attempts were crude, but they revealed enough underlying structure to justify treating the project as a reconstruction, not as pure invention.

Phase 2: Toolchain and Overlay Technique (2022–2023)

As the work progressed, a multi-app toolchain emerged:

resolution photographs of the Shroud of Turin. Available at: https://shroudphotos.com/. Accessed: 13 Nov. 2025

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Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

– **Picwish** for upscaling and initial enhancement.

– **iPiccy** for hand-painting, color work, and texture.

– **Inkscape** for the overlay technique that kept the reconstruction visually tied to the cloth.

The overlay technique as qualitative constraint: In Inkscape, a high-resolution Shroud face photograph was placed on one layer; the evolving reconstruction occupied another. By lowering the opacity of the reconstruction and toggling visibility, it became possible to see at a glance where nose, eyes, mouth, chin, beard edge, and hairline diverged from the cloth. The reconstruction was then nudged, warped, or repainted so that these landmarks matched *by eye*. This technique did *not* provide numerical measurements or guarantee anatomical correctness. It simply ensured that whatever artistic choices were made, the visible geometry of the cloth acted as a constant reference. Another artist using the same method would reach a slightly different stopping point; there is no claim of pixel-level precision.

FIGURE 4

Evolution in Phase 2: from raw cloth, through intermediate paint-overs, to a cloth-aligned face

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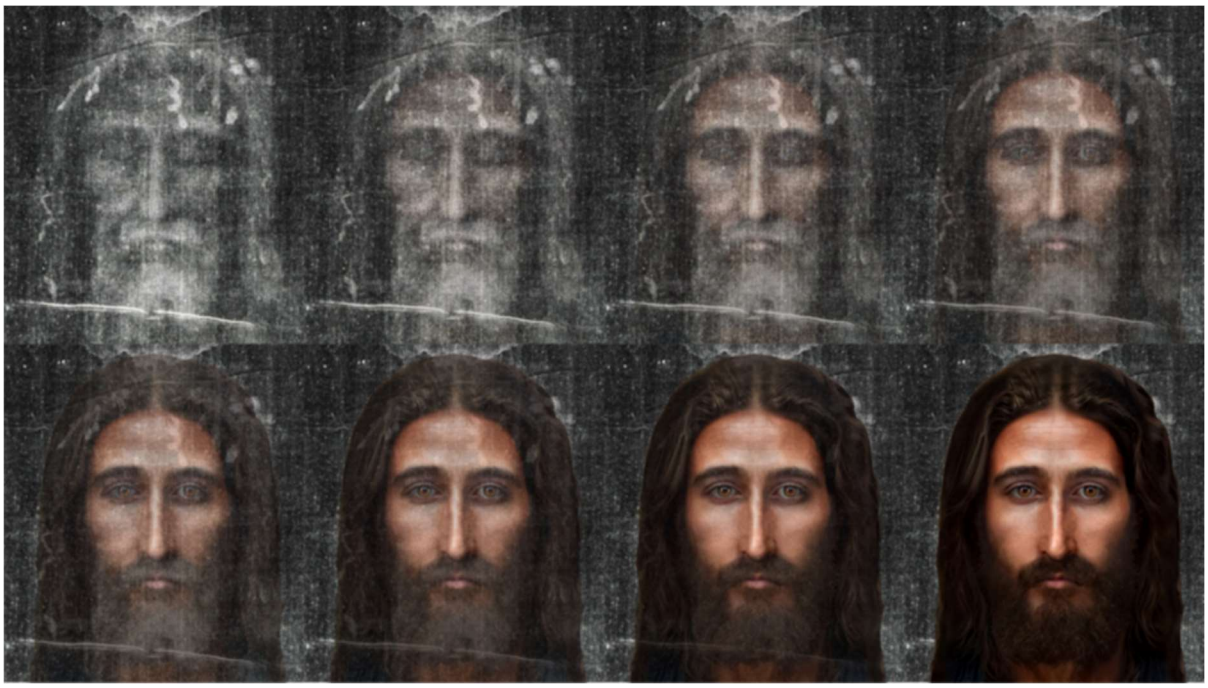
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

Phase 3: AI-Assisted Exploration (2023–2024)

The arrival of accessible generative AI systems in 2023 changed the *workflow*, even though none of their outputs were adopted without heavy modification. Early prompts such as "face reconstructed from the Shroud of Turin" led to generic, Westernized portraits. Through extensive trial and error, prompts were sharpened to include Level A and Level B constraints: olive-brown Judaean male, first-century clothing, black wavy hair of moderate length, non-idealized features, and trauma consistent with scourging and crucifixion.

FIGURE 5



2024 reconstruction that reached wide public visibility.

One 2024 version attracted media attention in the *Daily Mail* (2024) and on Italian TV (TV2000, *Di Buon Mattino*, after ~29:00, 2024). This external exposure pressure-tested the reconstruction: general audiences responded to the "ordinary" but dignified presence, while specialists scrutinized whether the features still respected the cloth geometry and historical constraints. The methodology and results were subsequently presented at the St. Louis Shroud Conference in August

2024,[4] where they were shared with scholars and researchers for further critique and discussion.

What AI Actually Did—and Did Not Do

AI transformed the reconstruction process by supplying a stream of candidate faces that could be evaluated, rejected, combined, or repainted. It accelerated exploration and made it easier to test how small prompt changes affected phenotype, expression, and lighting.

At the same time, no AI output was remotely "finished." Common failure modes included:

– Too-smooth, stylized skin textures

– Excessive symmetry and "beautification"

– Hair that drifted toward Western salon styles or implausible lengths

– Lighting that broke the flat, even character of the cloth image

– Loss or exaggeration of trauma markers

Every useful AI image became raw material: a starting point to be repainted, de-idealized, color-corrected, and then brought back under cloth alignment via the overlay technique. The reconstruction is therefore not "AI's face" but a human-guided synthesis produced in dialogue with the tools.

Phase 4: Integration and Final 2D Reconstruction (2025)

By 2025 the workflow had stabilized into a repeated loop:

- Select a small set of AI outputs that best approximated the desired Judaean phenotype and rough geometry.
- Repaint them in iPiccy: adjust skin tone into the olive-brown range, correct hair texture and length, add or suppress trauma features, and shape eyelids, lips and beard to match the cloth cues.
- Import the result into Inkscape, overlay it on the Shroud face, and adjust by eye until nose, eye spacing, mouth line, chin and beard edge aligned visually with the cloth.
- Return to iPiccy when misalignments became obvious, repaint, and repeat.

The overlay step, again, provided a *qualitative* visual check rather than a measurement. The stopping rule was pragmatic: when rapid toggling between cloth and reconstruction no

[4] St. Louis Shroud Conference. From Data to Devotion: AI-Assisted Reconstructions of the Man of the Shroud (presentation). Available at: https://www.youtube.com/watch?v=NQdyZk6MaTM&t=1543s. Accessed: 13 Nov. 2025.

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

longer showed noticeable shifts at key landmarks to the naked eye, work on that iteration ceased.

Texture work—subtle blur, sepia toning, and light cloth-texture overlays—was added last, to harmonize the reconstruction with the photographic character of the source.

FIGURE 6

From Shroud photograph to closed-eye reconstruction: progressive enhancement and repainting

Variants and the Refusal of a Single "Definitive" Face

Several families of reconstructions were produced:

– A **closed-eyes** version, judged closest to the cloth and preferred for serious use.

– An **open-eyes** version, explicitly labeled as speculative. Iris color was set to dark brown based on population genetics; eyelid shapes were inferred from orbital anatomy.

– **Trauma-emphasis** variants highlighting swelling, bruising and blood flows.

– **Low-trauma** variants for contexts where such emphasis would distract.

This plurality is a built-in reminder that all of the images are reconstructions. If one insists on a single, fixed "portrait," the Level C and D uncertainties are easily forgotten.

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Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

Evolution Sequences

FIGURE 7

From Shroud photograph to open-eye reconstruction: same process, ending in a more speculative endpoint

FIGURE 8

Simulated angled views via 2D warping.

Simulated Multi-Angle Views

To explore how the reconstructed face might look from other perspectives, simple perspective warps were applied to the frontal reconstruction. No full volumetric model existed at this stage; these images sit firmly at Level C—plausible extrapolations, not additional data.

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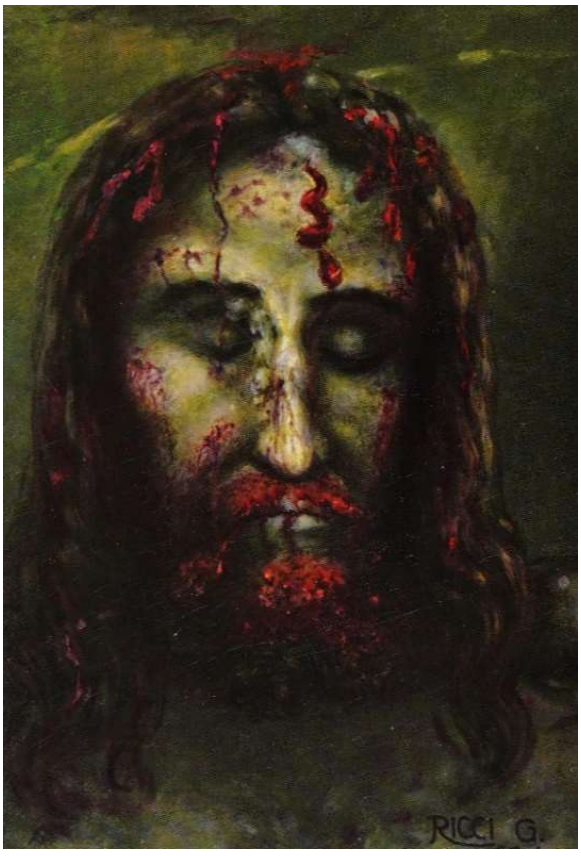
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

FIGURE 9

Jesus in first-century dress: costume reconstruction based on textile and social-history research

Trauma Features and Ricci's Influence

FIGURE 10



Monsignor Giulio Ricci's forensic interpretation painting painted with greater emphasis for didactic and devotional use (RICCI, 1969)

Ricci's painting emphasizes trauma features such as right-sided swelling, nasal deviation, and specific blood flows. It had an indirect influence on this project by sharpening awareness of where the cloth might encode injury and where it might not (RICCI, 1969).

As the reconstruction work progressed, one specific visualization with an accentuated crown of thorns and clearly defined blood flows emerged as a distinct variant. Technically, it is nothing more than a Level C adaptation of the closed-eye face: the underlying geometry still follows the cloth alignment procedure described earlier, but the crown, scalp wounds, and blood streams are painted with greater emphasis for didactic and devotional use.

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

Crown-of-Thorns Variant and Media Circulation (2025)

In late 2025 this image was picked up by online news outlets reporting on new forensic analyses of the Shroud's bloodstains and of the likely structure of the crown of thorns. Several platforms used this exact triptych—or cropped versions of it—as the lead illustration for their coverage, including *Daily Mail*, UNILAD, LADbible, Tyla, Newsner, and the Union of Orthodox Journalists (UOJ)[5]. In several cases, journalists treated the rendering as a natural visual partner to the forensic study, even though the reconstruction was developed independently, prior to those publications.

This media circulation had two side effects for the project. On the positive side, it tested how the reconstructed face and crown read for a broad, non-specialist audience: despite the increased depiction of injury, viewers still tended to describe the figure as calm, resigned, and recognizably Judaean rather than northern European. On the negative side, headline framing sometimes blurred the distinction between the forensic analysis and this independent visualization, occasionally suggesting that the image itself was "proving" a specific crown configuration. For that reason, the present paper stresses that this crown-of-thorns variant remains a reconstruction: the placement and density of thorn branches and the exact pattern of blood flows are interpretive, even

[5] Jesus' final hours revealed: Sensational new bloodstains study of Shroud of Turin. *Daily Mail*, 26 Oct. 2025. Available at: https://www.dailymail.co.uk/sciencetech/article-15224275/Forensic-analysis-bloodstains-Jesus-Shroud-Turin.html. Accessed: 14 Nov. 2025. Researchers believe chilling new Shroud of Turin discovery proves one major Jesus theory. *UNILAD*, 27 Oct. 2025. Available at: https://www.unilad.com/news/shroud-of-turin-new-research-402120-20251027. Accessed: 14 Nov. 2025. New forensic study 'solves mystery' of Jesus' final moments. *LADbible*, 27 Oct. 2025. Available at: https://www.ladbible.com/news/world-news/jesus-shroud-of-turin-mystery-solved-bloodstains-crown-666685-20251027. Accessed: 14 Nov. 2025. Forensic study reveals what Christ's Crown of Thorns looked like. *Union of Orthodox Journalists (UOJ)*, 28 Oct. 2025. Available at: https://spzh.eu/en/news/88781-forensic-study-reveals-what-christs-crown-of-thorns-looked-like. Accessed: 14 Nov. 2025. Researchers think new Shroud of Turin proves major Jesus theory. *Newsner*, 28 Oct. 2025. Available at: https://en.newsner.com/history/researchers-think-new-shround-of-turin-proves-major-jesus-theory/. Accessed: 14 Nov. 2025. Mystery of Jesus' final hours might have been solved following new crown of thorns study. *Tyla*, 30 Oct. 2025. Available at: https://www.tyla.com/news/jesus-final-hours-crown-thorns-mystery-solved-470975-20251030. Accessed: 14 Nov. 2025.

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

when they echo cues visible on the cloth and ideas suggested by recent forensic work.

FIGURE 11

Crown-of-thorns trauma-emphasis variant derived from the closed-eye reconstruction, shown in three angles (frontal, three-quarter, and profile)

In the reconstruction, certain features interpreted by many researchers as injuries are acknowledged: mild right-cheek swelling, a slight nasal shift, forehead blood flows, and periocular darkening. Each of these remains at Level C: they are plausible readings of ambiguous marks, not settled facts. The paper explicitly notes that some of these may be misinterpretations of weave, stains, or later damage.

From 2D reconstruction to 3D bust

A Different Kind of Leap

Moving from a frontal facial reconstruction to a three-dimensional bust requires an epistemic shift. The cloth offers a single, flattened projection, not a full set of depth measurements. Any step into 3D therefore leans heavily on Level D decisions. This section documents that leap frankly as reconstruction, not measurement.

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

FIGURE 12

Trauma-emphasis reconstruction compared with Shroud photograph

Building a 3D Form Using AI-Assisted Tools

Rather than traditional sculpting software alone, the 3D form was developed through iterative use of AI-based image and video tools (ChatGPT's image generation, Gemini, Sora, Veo 3). The frontal reconstruction acted as the non-negotiable anchor: every proposed 3D view was checked against it.

Depth cues came from four sources:

– Tonal variations in Shroud photographs, including earlier work suggesting a correlation with depth in the VP-8 image analysis (JACKSON et al., 1984).

– General human craniofacial anatomy.

– Anthropometric expectations for a first-century Judaean male.

– The frontal reconstruction itself, which fixed proportions at the Level A/B plane.

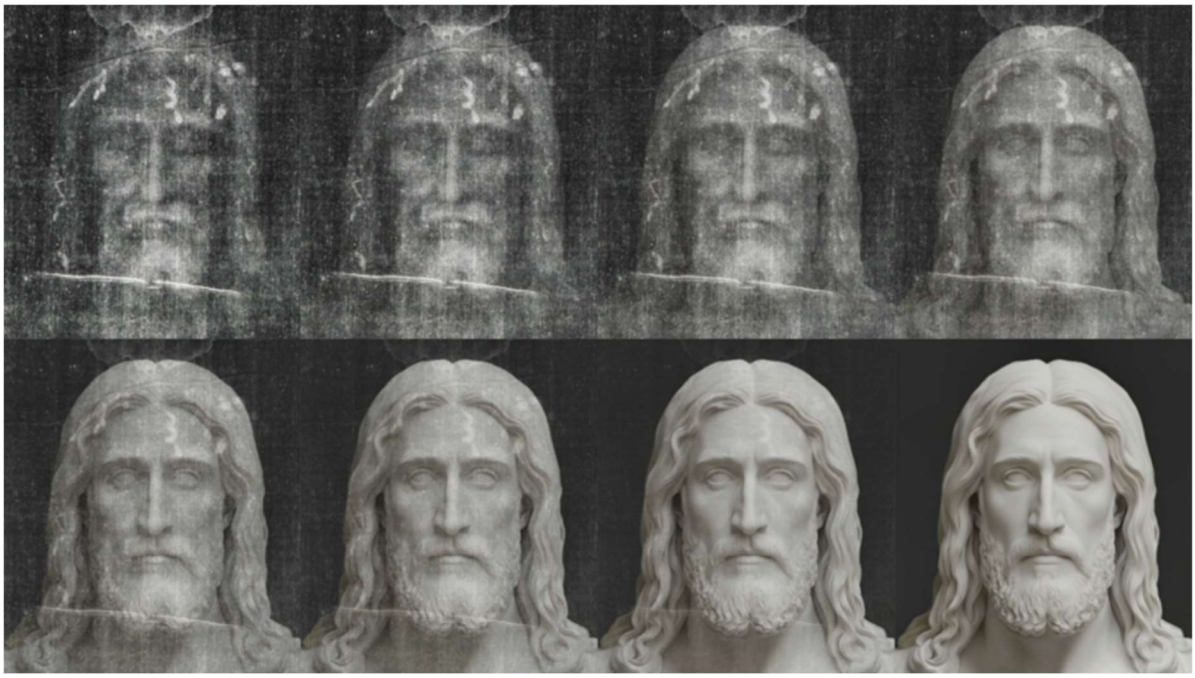
Each AI iteration suggested a possible combination of nose projection, cheek curvature, orbital depth and cranial shape. These suggestions were never accepted wholesale. Instead, they were treated

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

as sketches: the best candidates were selected, judged for anatomical coherence, corrected, and then compared against the 2D reconstruction and Shroud alignment. When a configuration felt both anatomically plausible and faithful to the frontal view, it was retained as a candidate for the final bust.

The outcome is one coherent 3D hypothesis: a volumetric face that, when seen from the front, matches the reconstruction, and from the side, remains believable as the same person. It is a reconstruction in the strongest sense: consistent, but not provable

FIGURE 13



From cloth signal to marble-style bust: staged development of the 3D form

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

FIGURE 14

Geometry validation sequence: stripping color and surface detail to test whether the likeness survives as pure form

In this figure the language of "proving accuracy" in earlier drafts is intentionally softened. What these plates demonstrate is **internal consistency**: if the likeness persists when color, pores and soft shading are removed, the underlying geometry is at least self-supporting.

The bust maintains recognizability across views and keeps asymmetries suggested by the cloth—slight nasal offset, unequal eyelid definition, mild right-cheek fullness—without drifting into caricature.

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

FIGURE 15

Multi-view audit of the bust: frontal, three-quarter, profile and rear views

FIGURE 16

Three-angle view of the crown-of-thorns bust derived from the digital reconstruction.

This sculptural variant translates the digital face into a classical white "marble" idiom, presented on a simple plinth and shown from frontal, three-quarter, and profile views. The underlying craniofacial geometry still follows the Shroud-aligned reconstruction described in Section 4: nose axis, mouth line, beard volume, and overall head proportions are

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

carried over with minimal alteration, while the smooth surface finish and idealized material clearly signal its status as a devotional object rather than a forensic model. The crown of thorns is treated as an integrated structural element, encircling the upper scalp with dense, intersecting branches that echo the recent forensic discussions of a cap-like crown while remaining interpretive. Closed eyes, relaxed mouth and slightly inclined head preserve the calm, prayerful expression of the 2D visualization, inviting contemplation rather than spectacle. As with all 3D work in this project, this bust sits at Level D in the confidence hierarchy: it offers a consistent volumetric hypothesis shaped by the Shroud data and first-century constraints, yet it remains an artistic reconstruction, not a numerically validated likeness.

3D Printing and Hand-Finished Sculptures

Modern 3D printing (FDM, SLA, SLS, full-color systems) allows this reconstructed face to inhabit physical space as small devotional pieces, desk busts or larger exhibition sculptures. The digital model can be scaled, printed in various materials, sanded, primed and painted to echo the olive-brown skin and trauma features of the 2D reconstruction.

FIGURE 17

From digital bust to 23 cm hand-painted study

Additional Ethical Questions Raised by Physical Objects

Once a reconstructed face becomes a physical object, questions multiply: how will it be venerated, handled, discarded, multiplied, or commercialized? Section 6 returns to these concerns.

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

Reflections on what this reconstruction does—and does not—claim

Main Contributions

This project:

– Shows one way a non-institutional artist can use everyday apps and AI tools to attempt a historically constrained facial reconstruction from the Shroud.

– Demonstrates how continuous overlay with the cloth can keep a reconstruction visually tethered without pretending to validate it scientifically.

– Offers a face and bust that intentionally break with Eurocentric iconography while aiming for the "ordinary Judaean male" profile from Taylor (2018).

Equally important is what it emphatically does *not* claim: it is not forensic identification, not a test of authenticity, not a controlled scientific experiment, and not proof that Jesus—or anyone else—"looked like this."

The Role of AI Revisited

AI changed the reconstruction workflow by supplying endless variants, but it never replaced human judgment. It functioned as:

– A generator of candidate faces within the historically constrained parameter space.

– A quick way to test how different prompt formulations affected ethnicity, age, and expression.

– A source of volumetric hints for the 3D stage.

At no point did AI outputs circumvent the need for manual repainting, cloth alignment, or historical critique. The reconstruction stands or falls on those human-guided steps.

Subjectivity at Every Level

Subjective choices permeate the work:

– Deciding which faint marks on the cloth represent anatomy and which do not.

– Choosing among AI-generated candidates.

– Determining when overlay alignment is "good enough" by eye.

– Setting the degree of swelling, bruising and blood.

– Selecting the exact shade of olive-brown, hair volume, and beard density.

A different artist, even with identical tools and references, would construct a different face. This plurality is not a flaw; it is a reminder that we are squarely in the territory of Level C and D reconstruction.

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Revista Científica de Cultura e de Imagem
Nº 5 Ano II dezembro/2025
ISSN 3085-7309

Relation to Earlier Reconstructions

The new reconstruction naturally invites comparison with earlier work, such as reconstructions by Giulio Fanti (2010) and Ray Downing (2010) Similarities in skin tone, proportions or expression may reflect two things at once: genuine constraints imposed by the cloth and first-century context, and shared cultural assumptions about how a "realistic Jesus" ought to look. The present project does not claim to resolve this tension; it simply places its own reconstruction alongside these predecessors with clear methodological notes.

FIGURE 18

AI-generated comparison sheet illustrating how different systems converge on similar faces when given similar constraints

"Ordinary" Appearance and Visual Impact

Taylor's emphasis on an "ordinary-looking Judaean" was taken seriously as a design target, yet the final images still carry emotional weight. They may appear noble, intense, or serene depending on lighting and context. This raises a question: can a face both look "ordinary" for its time and still read as deeply moving to twenty-first-century viewers? The project leans toward "yes", but acknowledges that viewers inevitably

overlay their own expectations. The reconstruction therefore walks a narrow path: avoiding glamour while accepting that any focused, frontal portrait will feel charged.

The Limits of Visual Reconstruction

No matter how refined the tools, several facts remain:

– The cloth does not encode definitive skin tone, iris color, or hair length.

– Depth information is underdetermined.

– Trauma interpretation is debated.

– The identity of the man remains contested.

This reconstruction is best understood as a disciplined thought experiment: "If the cloth really portrays a first-century Judaean man, and if we honor both its geometry and the best historical research we have, one *possible* face he might have had is this."

Ethical dimensions

Religious Sensitivity

Creating a face that many viewers will spontaneously treat as "Jesus" is not neutral. The project tries to mitigate risk by:

– Labeling the images as reconstructions and visualizations, never as proof.

– Providing multiple variants to discourage the idea of a single canonical portrait.

– Keeping the work freely available rather than closely monetized.

– Welcoming critique from diverse Christian and non-Christian audiences.

Yet once released, control is limited. Images will circulate in ways the author cannot predict.

Race, Culture and Representation

Given the long history of pale, European Jesuses dominating Christian art, choosing an olive-brown Judaean face is both a historical and an ethical decision. It resists a familiar visual regime that has carried real social consequences. At the same time, no single reconstruction can encompass the full range of Levantine diversity. This work should therefore be seen as one corrective example, not as an exclusive standard.

Persuasive Power and False Certainty

Photorealistic reconstruction has a psychological force sketches and textual descriptions lack. Viewers can

easily slip from "this is one artist's reconstruction" to "this is what he looked like." That risk is the main reason the paper repeats that the work is speculative and layered with interpretive decisions.

Sculptures as Potential Sacred Objects

Physical busts invite touch, placement on altars, and forms of veneration. They may be treated by some as quasi-relics rather than as reconstructions. There is no simple way to prevent this, but honest documentation, clear labeling, and responsible distribution can at least give future custodians the information needed to frame these objects as what they are: carefully crafted reconstructions grounded in both cloth geometry and historical research, but still interpretive.

Conclusion

This project set out with a simple but ambitious intention: to look at the Shroud of Turin not only as an artifact to be debated, but as a starting point for reconstructing the living face of the man it depicts. Using freely available apps, modern AI tools and a deliberately modest confidence hierarchy, it attempted to balance three forces: the stubborn, low-contrast data of the cloth; the best historical research on first-century Judaean appearance; and the inescapable subjectivity of artistic judgment. The result is a family of reconstructions and a three-dimensional bust that remain visually tethered to the Shroud while stepping beyond it into zones of growing uncertainty. On the 2D plane, Level A and B constraints keep the work close to the photographic signal and to historically grounded parameters. On the 3D plane, Level D decisions dominate, and the images and sculptures are presented explicitly as hypotheses rather than as verified outcomes. Along the way, the project shows how AI can be harnessed without surrendering authorship: as a generator of possibilities and a testing ground for prompts, never as an oracle. It also illustrates how practice-based research can sit between disciplines: informed by theology, history, forensic thinking and visual design, yet answerable to none of them alone.

In the end, the value of this reconstruction does not lie in claiming, "This is how Jesus looked." Rather, it lies in offering one carefully constrained and carefully documented answer to a different question: if the Shroud really does carry the imprint of a crucified first-century Judaean man, how might his

face appear if we bring together the cloth, historical research, and contemporary tools with as much transparency as we can manage? The images and busts that emerge are invitations to contemplation and further critique, not the last word.

IMAGENS EM FOCO
Revista Científica de Cultura e de Imagem
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APPENDIX: TECHNICAL TOOLS USED

Image Enhancement:

• Picwish (https://picwish.com) - AI-based resolution enhancement and clarity improvement

• Various online sharpening/enhancement tools (names not systematically recorded)

Digital Editing:

• iPiccy (https://ipiccy.com) - Primary manual editing, painting, color correction

• Inkscape (open source) - Vector-based geometric refinement, layer management, overlay alignment validation, final compositing

• Various blur and filter applications (multiple free online tools)

AI Generation:

• ChatGPT (with DALL-E integration) - Text-to-image generation

• Manus AI - Alternative AI generation platform

• Google Gemini - Additional AI generation platform

3D Modeling:

• AI-powered image-to-video generation platforms (Sora, Veo 3) for depth interpretation
• Digital processing tools for creating three-dimensional models from two-dimensional visualizations
• Depth estimation and volumetric interpretation workflows
• Export to standard 3D printing formats (STL, OBJ)

Hardware:
• Desktop computer with standard display (no specialized equipment)
• Graphics tablet/stylus for manual painting work
• Standard consumer-grade technology throughout

Cost:
• Most tools used were free or low-cost web applications
• AI chatbot subscriptions during active development periods
• Modest total monetary investment
• Accessible to individual creators without institutional funding

NOTES FOR READERS

How to cite this work:
If referencing these visualizations, please cite them with appropriate confidence-level specification:
"Closed-eye frontal visualization based on geometric alignment with the Shroud of Turin photograph, created using hybrid AI-assisted and manual digital art techniques (2022-2025). Achieves 2-3 pixel precision through overlay validation. Not a scientific reconstruction or proof of historical appearance."
For open-eye or 3D versions, add: "Represents speculative extrapolation beyond direct source evidence."

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lower confidence than the 2D frontal visualization. Commercial reproduction is not authorized.

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