

SENA AYDIN

Fashion Design | Material Innovation | Emerging Technologies

I am fascinated by the hidden potential of materials and by the creative possibilities that emerge through limitations. I am drawn to systems, not to follow them, but to question and reshape them. Through close observation and experimentation, I ask what familiar materials, objects and processes might become when used beyond their intended purpose. Rather than designing towards a fixed outcome, I let making, testing and curiosity shape the direction of my work.

Working across fashion, installation and material research, I enjoy combining different materials, techniques and technologies to develop new ways of making and interacting with design. My background in graphic and spatial design continues to influence my work, shaping an interest in geometry, structure and the dialogue between two- and three-dimensional form.

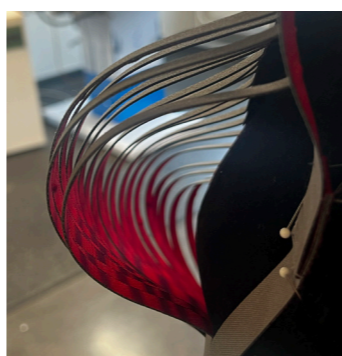
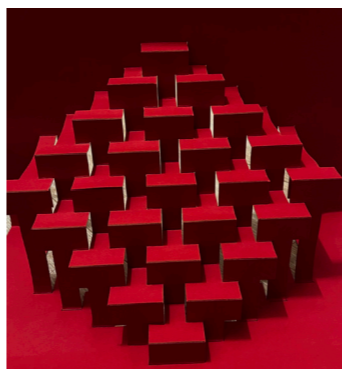
Whether creating garments or installations, I aim to design work that invites curiosity, encourages closer observation and reveals the hidden potential within materials, processes and the everyday.

BEYOND THE ARMOR

2026

Beyond the Armor investigates protection as a fragile rather than fixed condition. Through digital fabrication, laser cutting, 3D printing and upcycled materials, the collection explores the tension between authority, vulnerability and control.





Kirigami Structures

Laser-cut kirigami patterns create expandable volumes that rely on tension instead of additional construction.

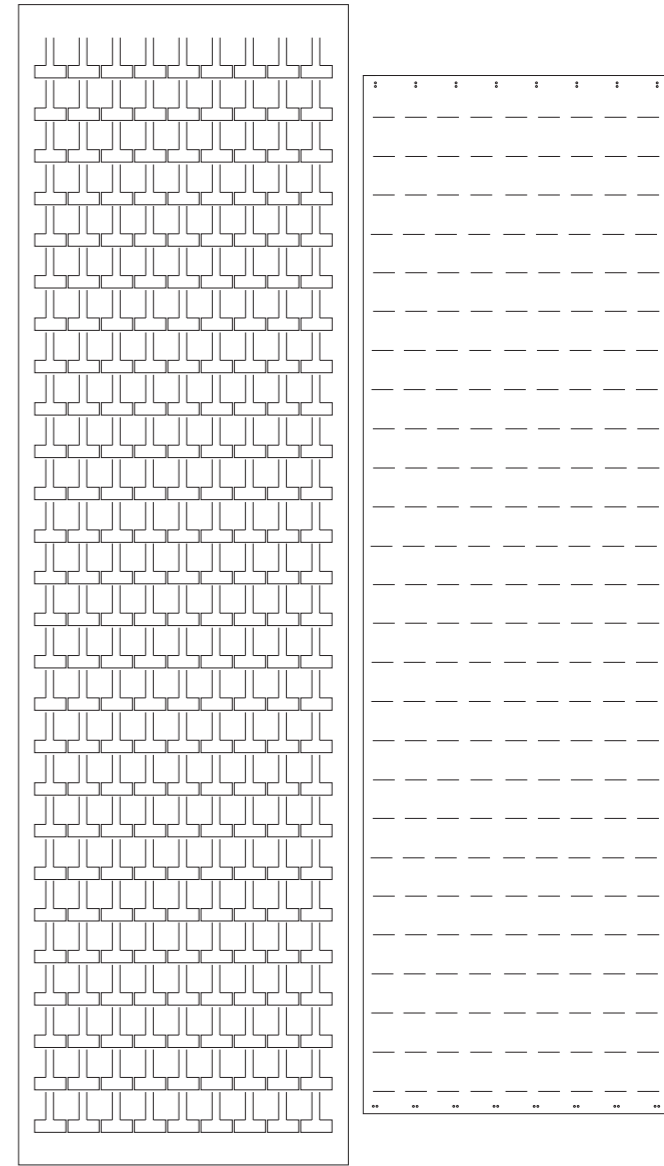
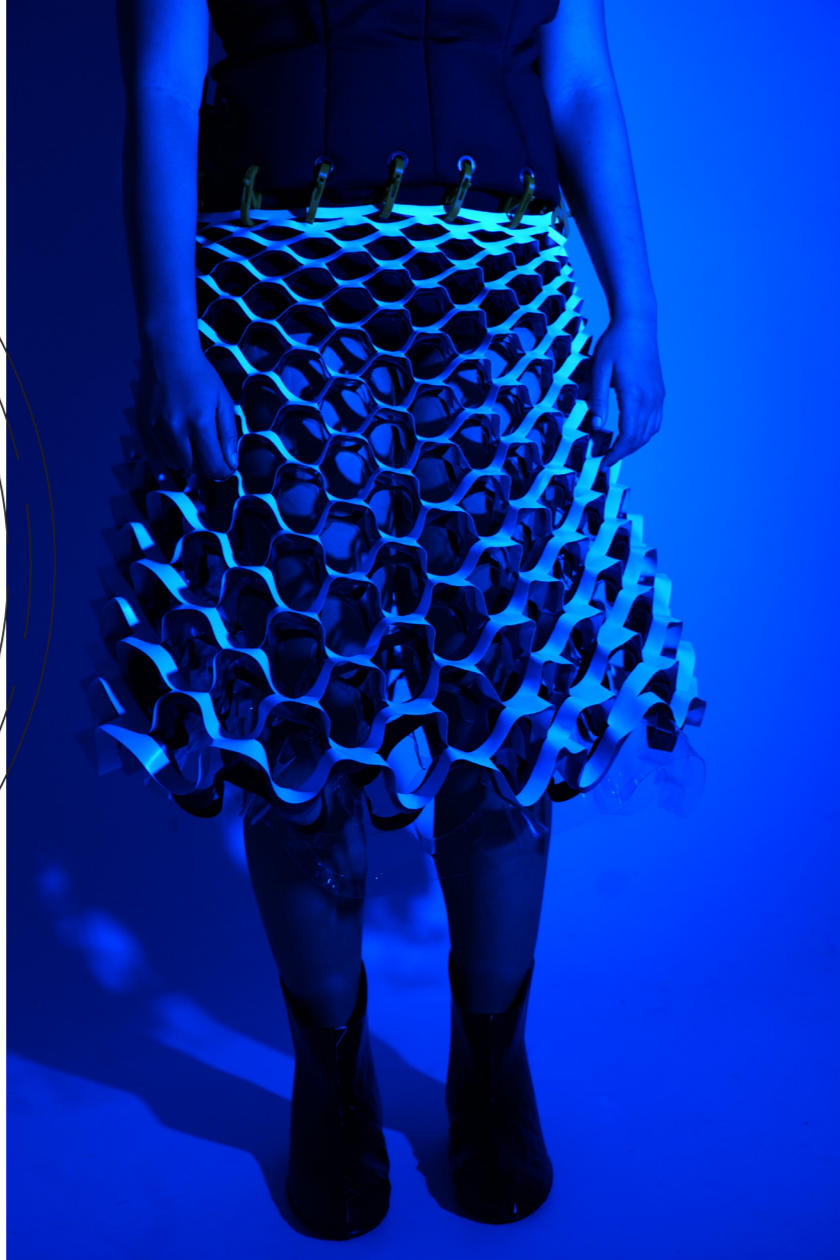
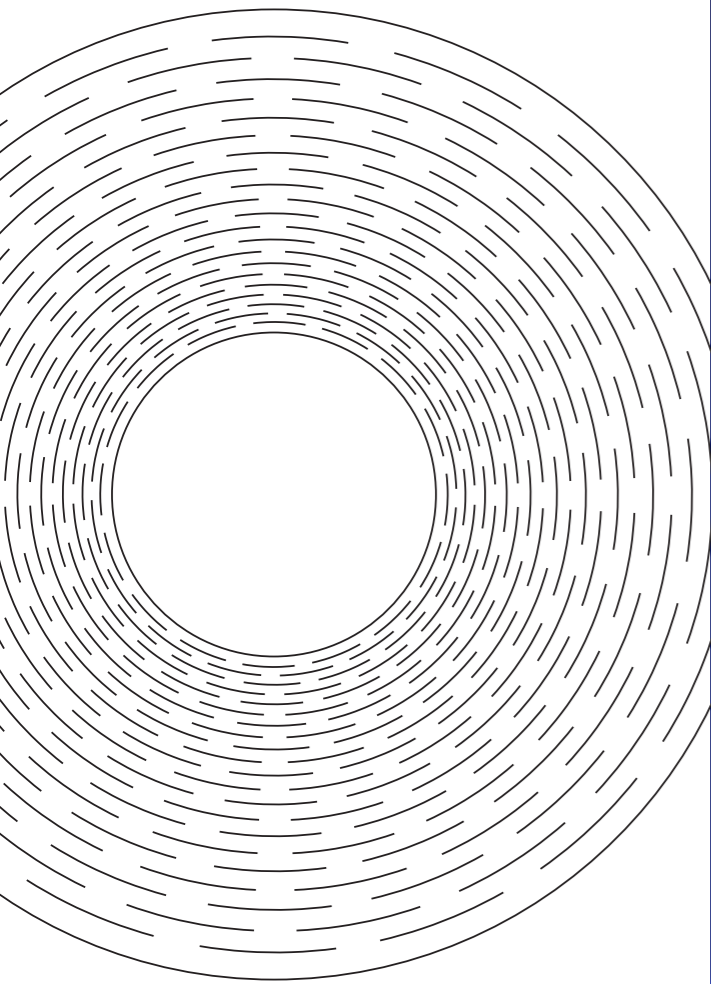
Material Transformation

An upcycled roller blind was transformed into a structured textile with a contrasting red interior, extending the material beyond its intended use.

Digital Patterning

The kirigami structures were designed as digital pattern pieces and laser-cut, allowing rapid iteration before fabrication.



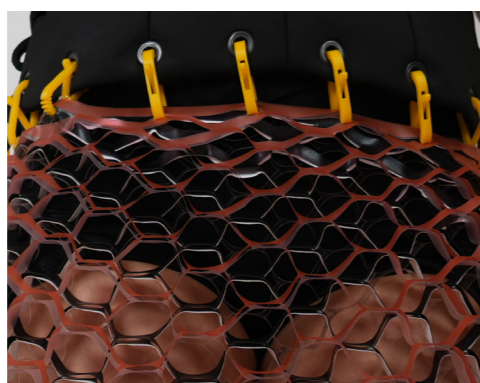


Systematic Pattern

The skirt pattern was refined through systematic testing of opening size, spacing and repetition to balance flexibility, movement and structural strength.

Modular Layering

Five interchangeable layers are connected using custom 3D-printed clips. Rearranging the order of the layers creates different colour combinations and visual depth without changing the overall construction.



Repurposed LED Strips

Discarded LED television strips were repurposed as visible structural elements, transforming electronic waste into part of the garment's construction.

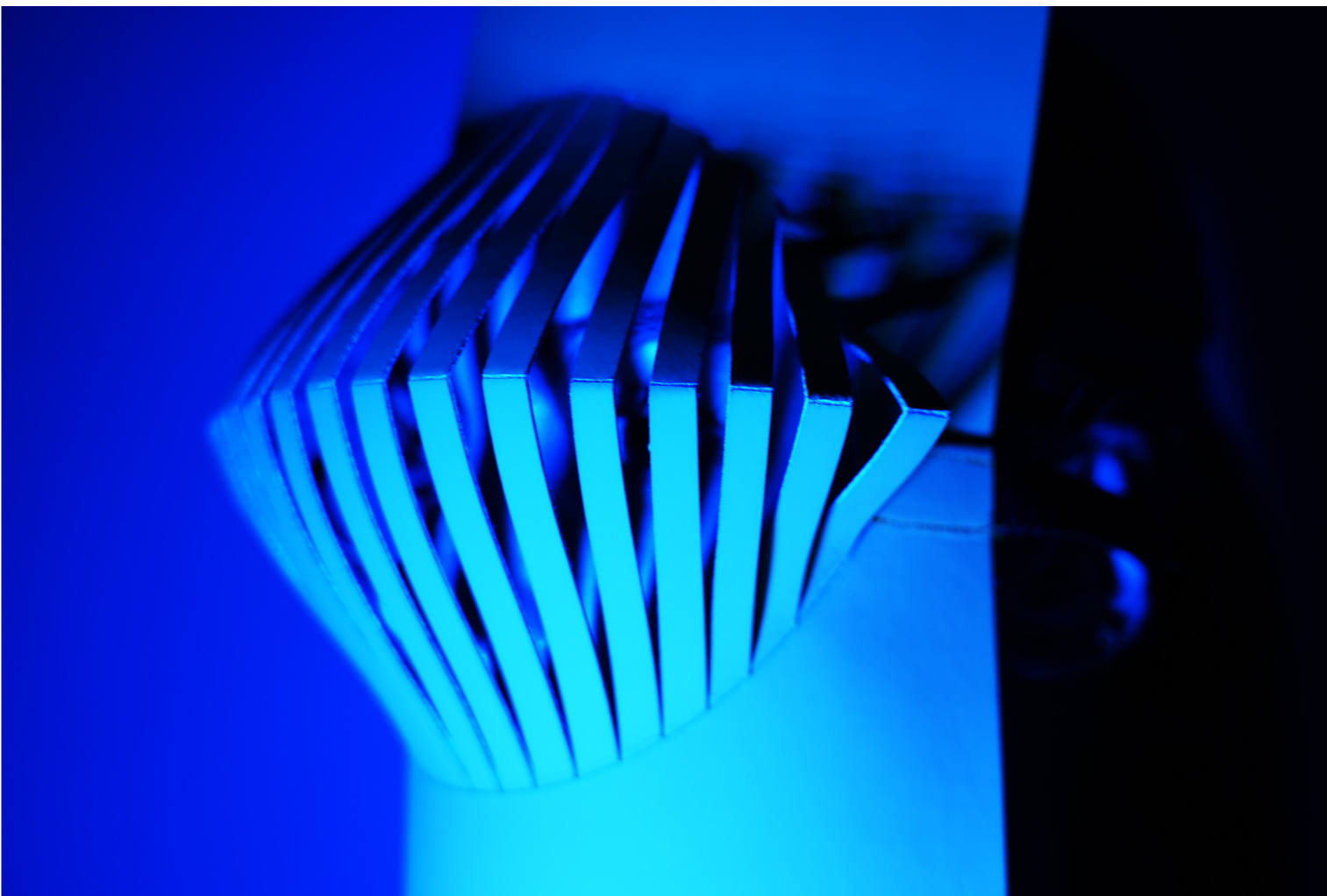
Interlocking Construction

Two laser-cut layers interlock without adhesives, while hidden hooks preserve the continuity of the pattern.



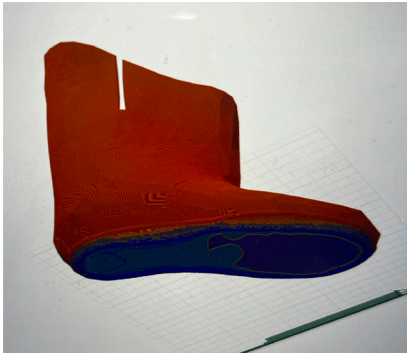
3D Printed Footwear

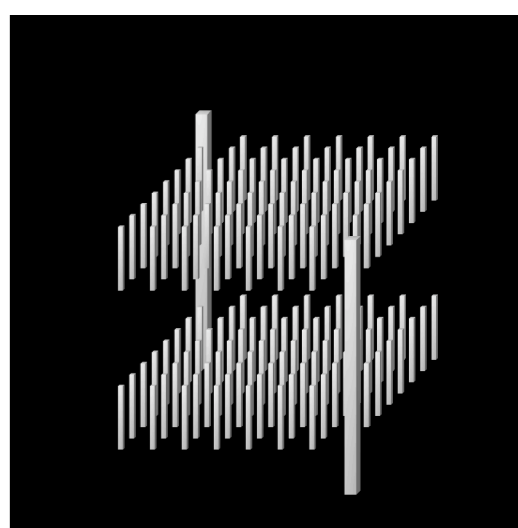
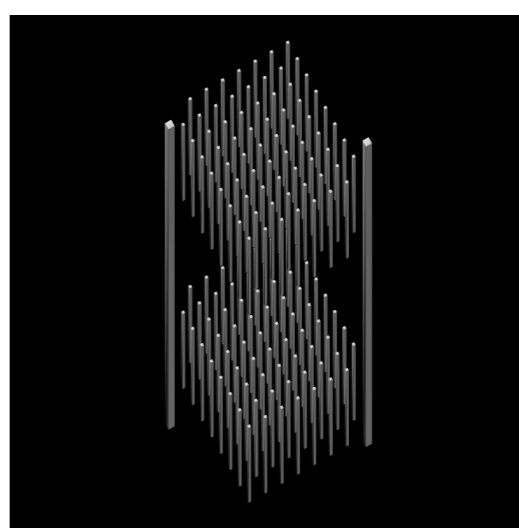
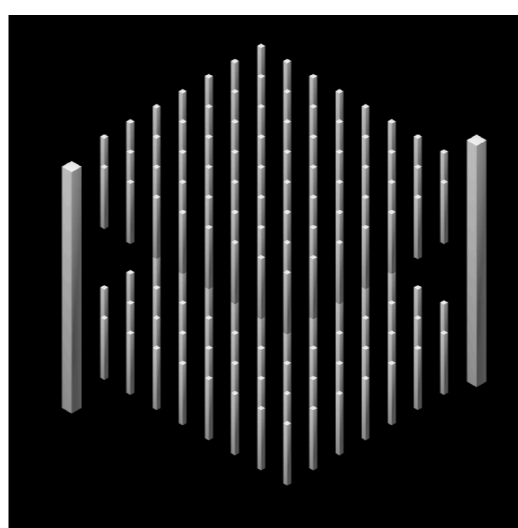
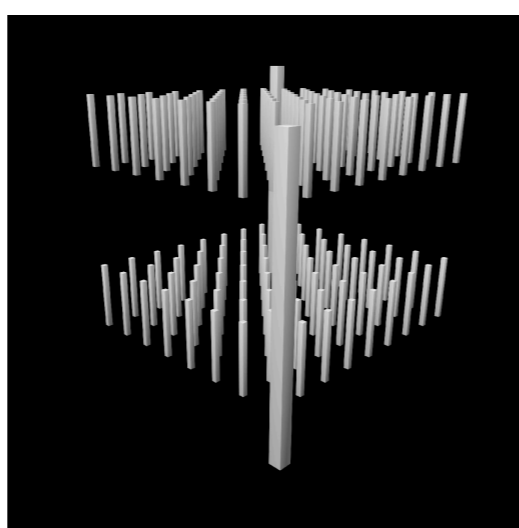
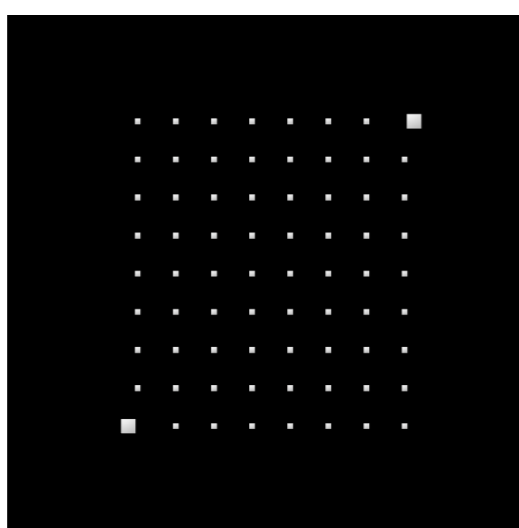
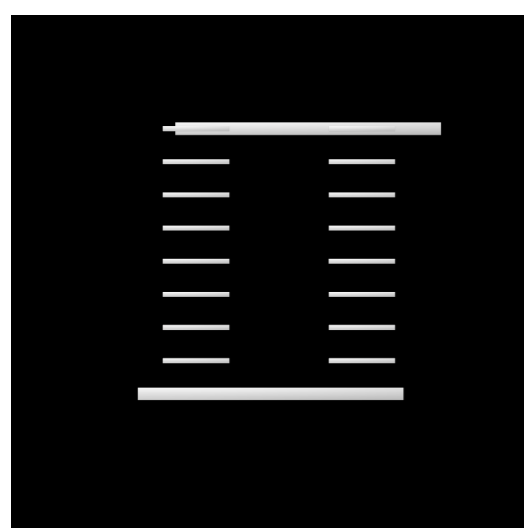
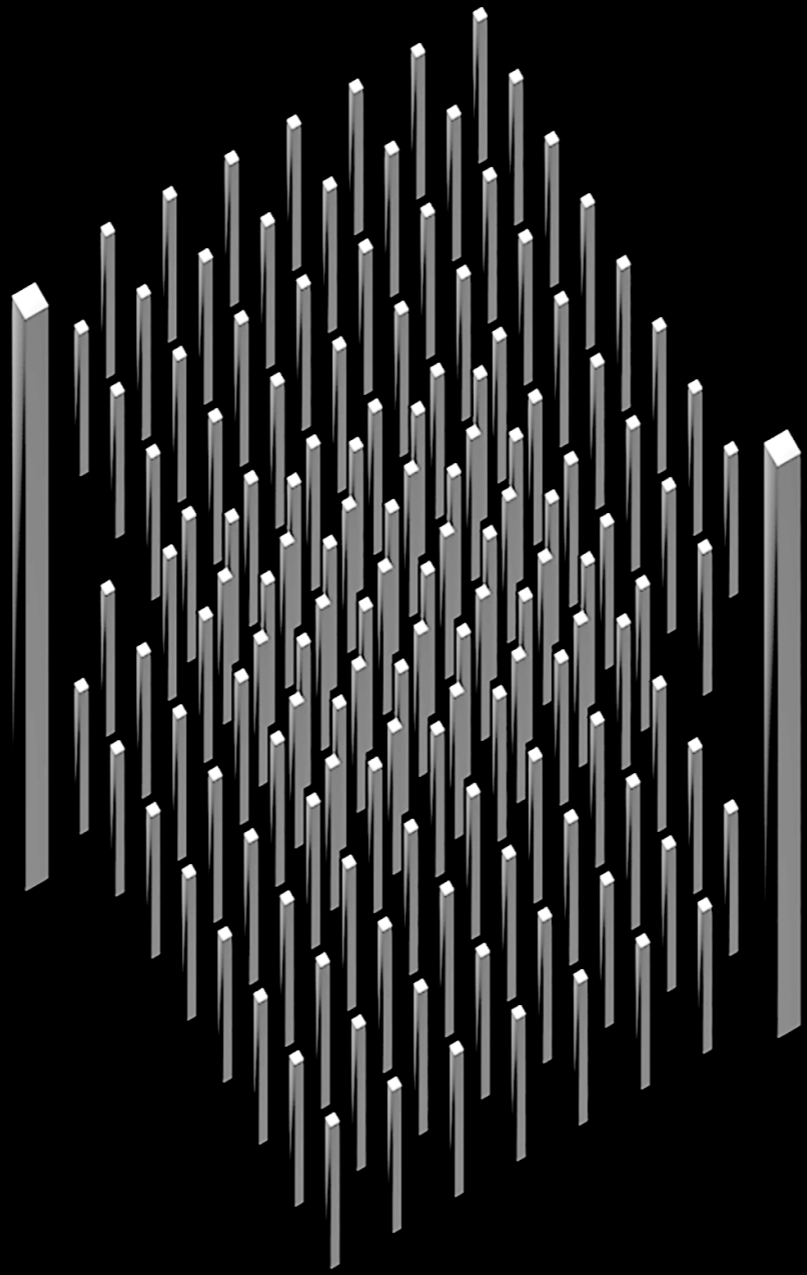
Custom footwear was digitally modelled and 3D printed to extend the collection's geometric language into wearable prototypes.



Kirigami Structure

Laser-cut kirigami slits transform a flat surface into a three-dimensional structure, balancing concealment with vulnerability.





System Visualisation

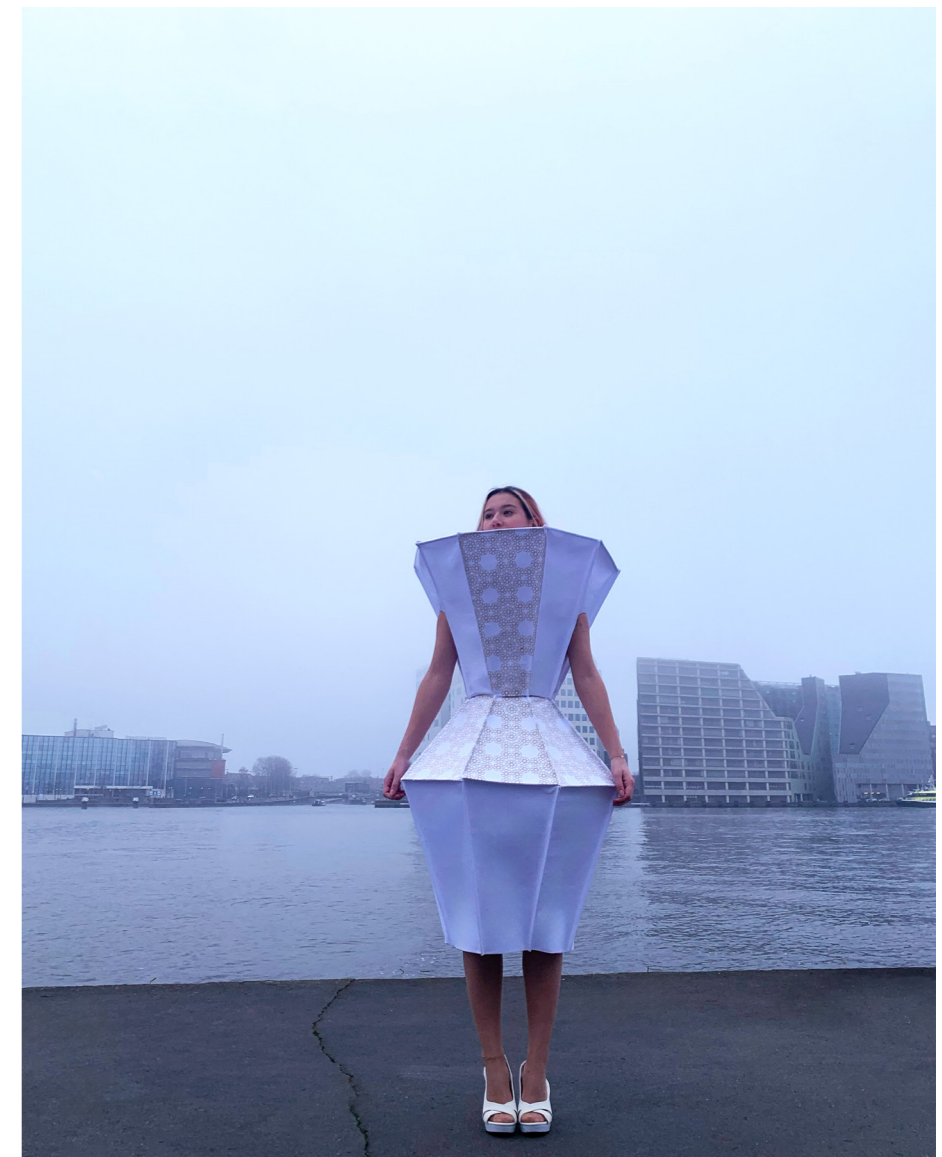
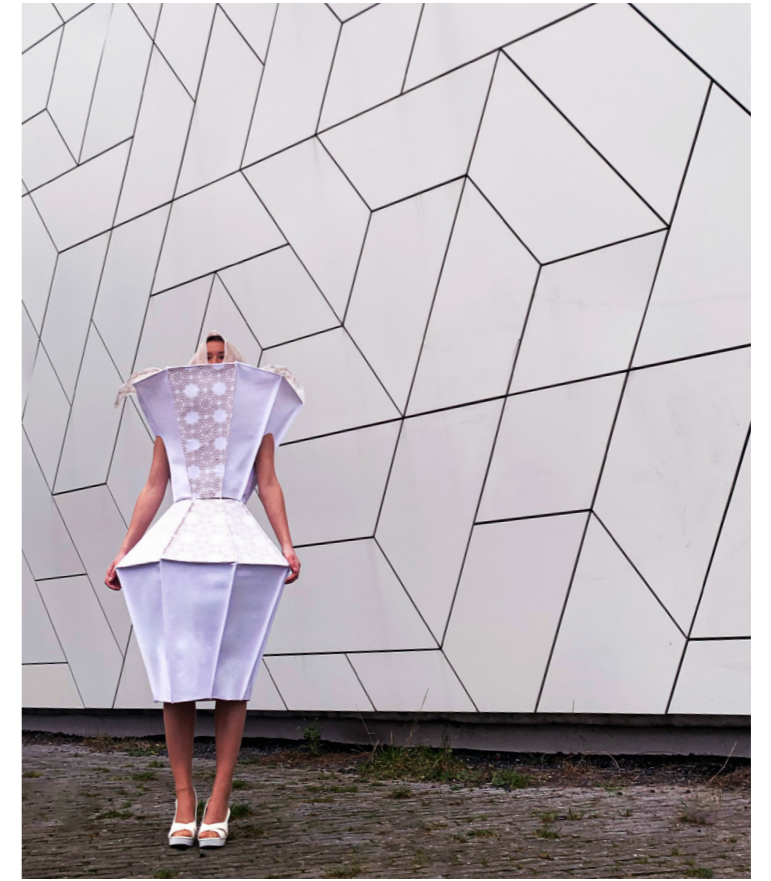
A Cinema 4D animation was developed to translate the collection's structural logic into motion.

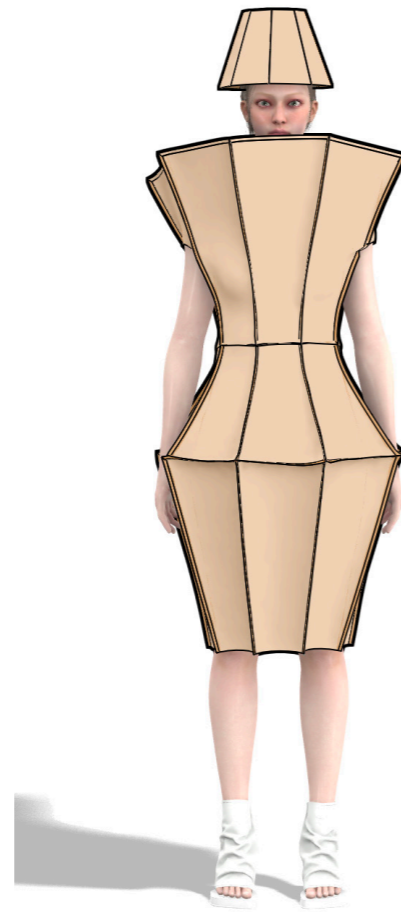
GEOMETRIC MYSTERY

2024

Geometric Mystery translates principles of sacred geometry and Islamic patterns into sculptural garments. Through folding, repetition and geometric construction, flat surfaces become architectural forms that sit between object and body.







Vacuum Forming

A custom 3D printed master was developed to create a vacuum-formed mould used to imprint a three-dimensional texture into cotton poplin.

Material Restriction

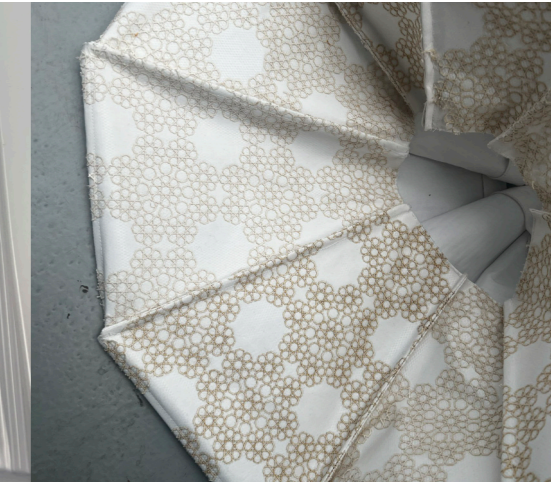
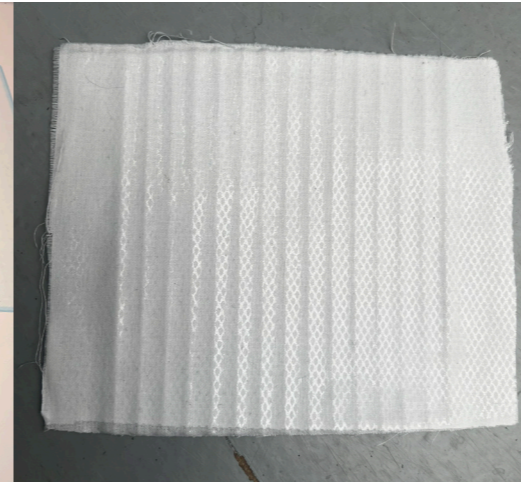
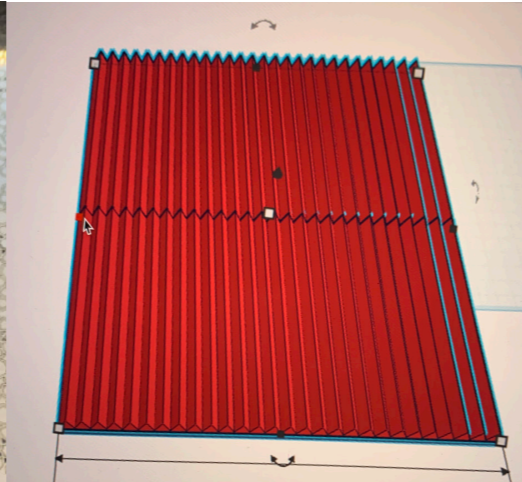
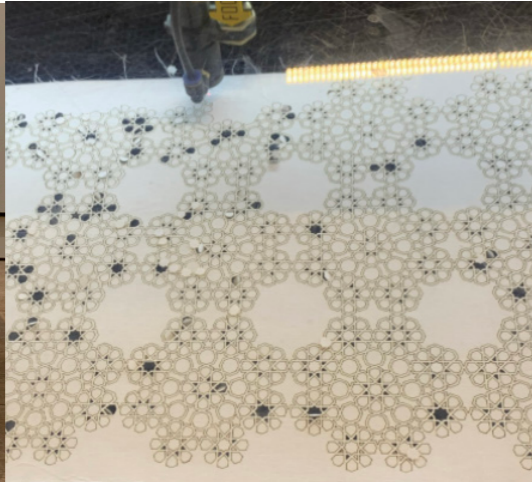
The entire garment was constructed from cotton poplin. Laser cutting, vacuum forming and folding transformed a single material into a range of textures and structures.

Scale Prototype

A 3D printed scale model was used to refine proportion and volume before constructing the final garment.

Islamic Geometry

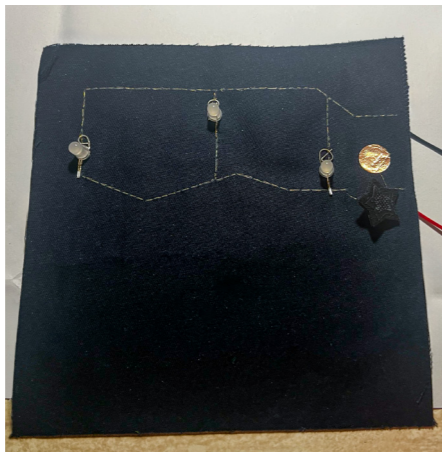
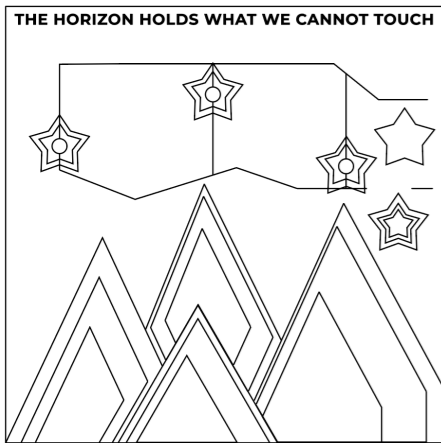
Traditional Islamic geometric patterns were translated into laser-cut motifs, linking historical ornament with digital fabrication.



ALMOST WITHIN REACH

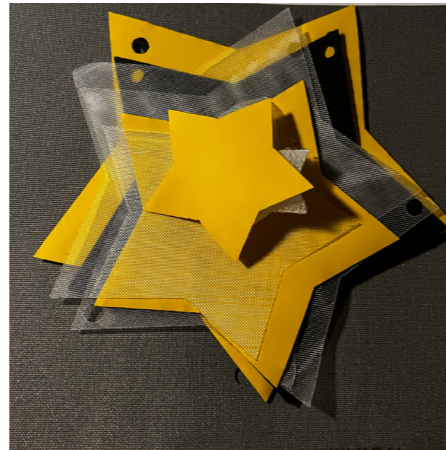
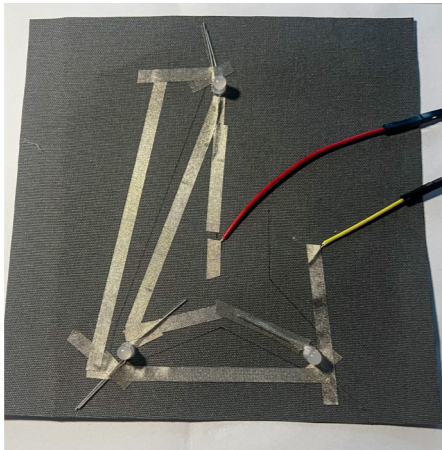
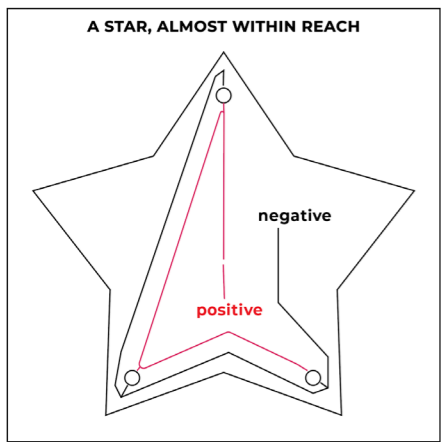
2026

Almost Within Reach explores how soft electronics can be integrated into textiles without sacrificing tactility. Through laser cutting, engraving, conductive materials, embroidery and soft circuitry, a series of interactive textile samples investigates ways of integrating electronic components into fabric while preserving flexibility and encouraging playful interaction through touch.



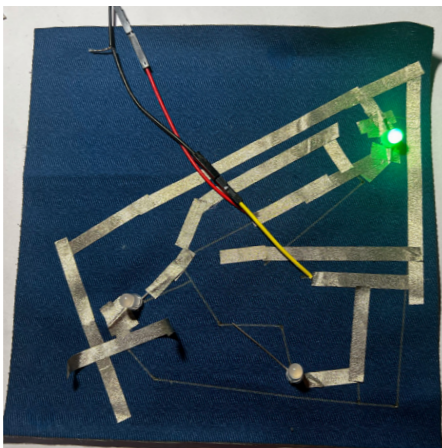
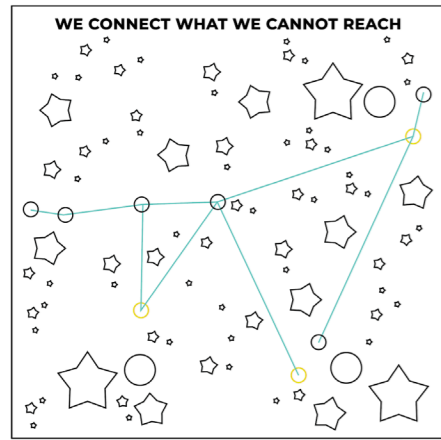
Touch Activation

Conductive yarn was embroidered directly into the textile, allowing stitched contact points to complete the circuit through touch.



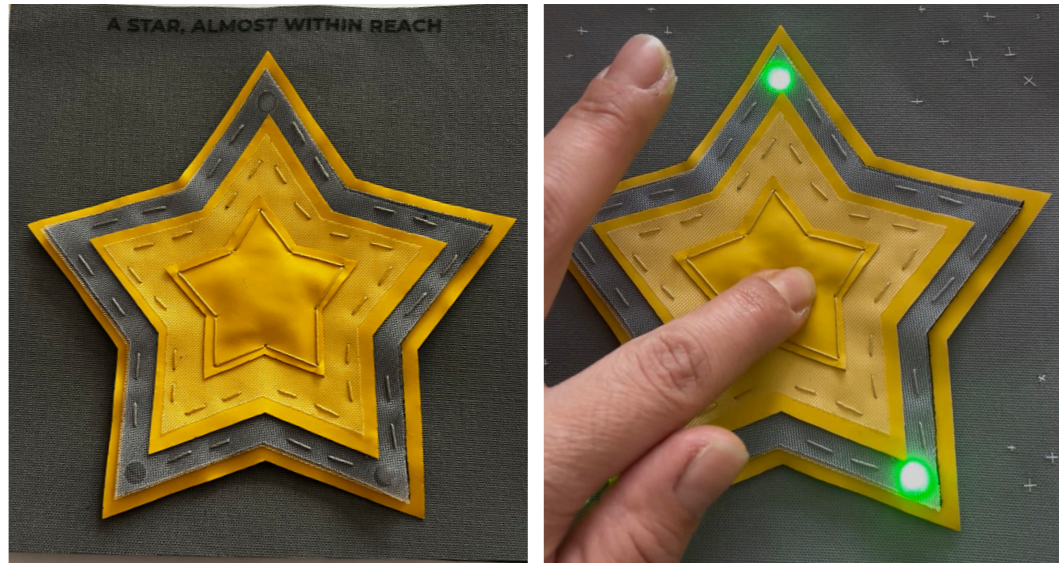
Pressure Response

Conductive tape was embedded between textile layers to create a soft pressure-sensitive switch while maintaining flexibility.



Mechanical Interaction

A concealed toggle mechanism was integrated with conductive tape, allowing the circuit to be activated through physical movement.

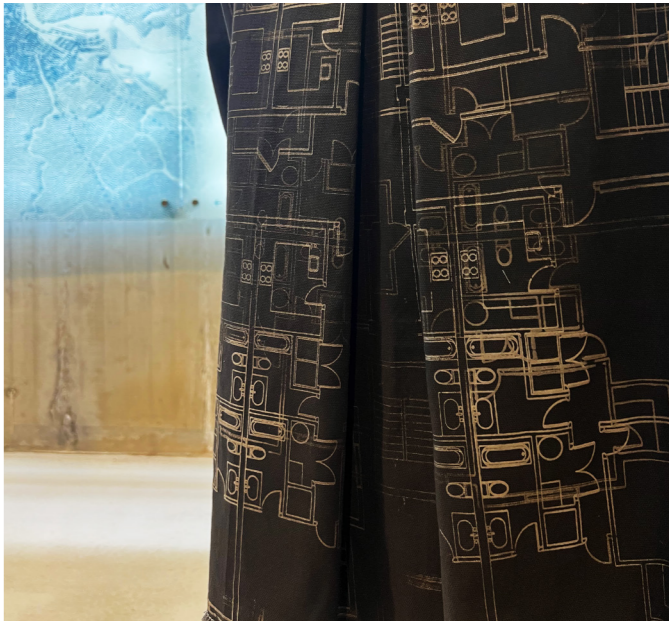


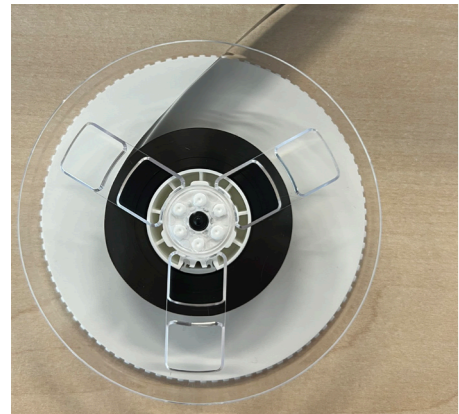
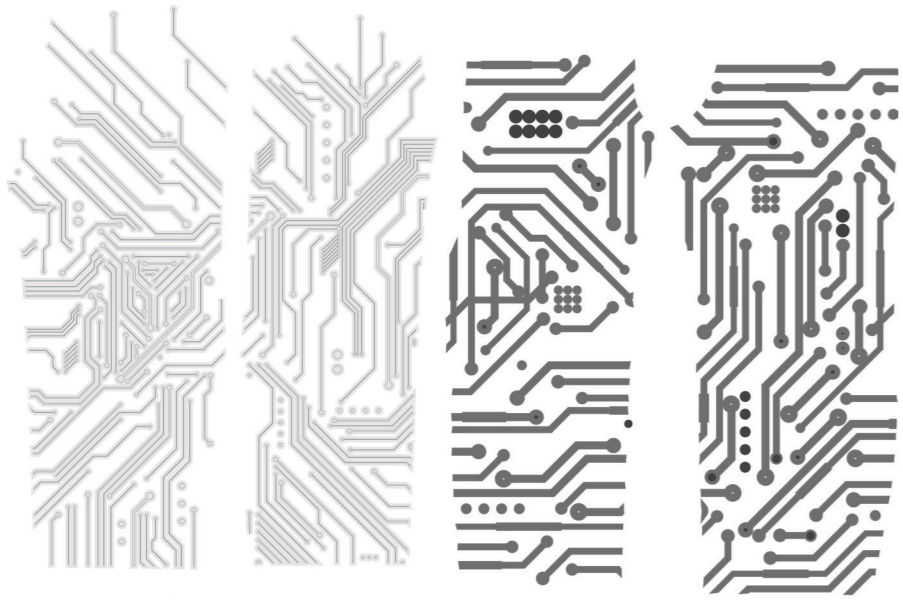


CIRCLE OF TIME

2025

Circle of Time examines cyclical systems, interconnectedness and change. Through experimental printing and circular design strategies, it investigates the relationship between technology, heritage and material transformation.





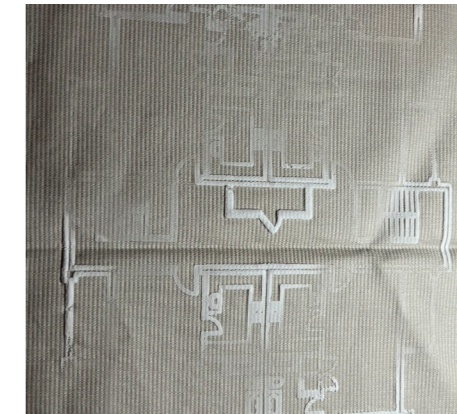
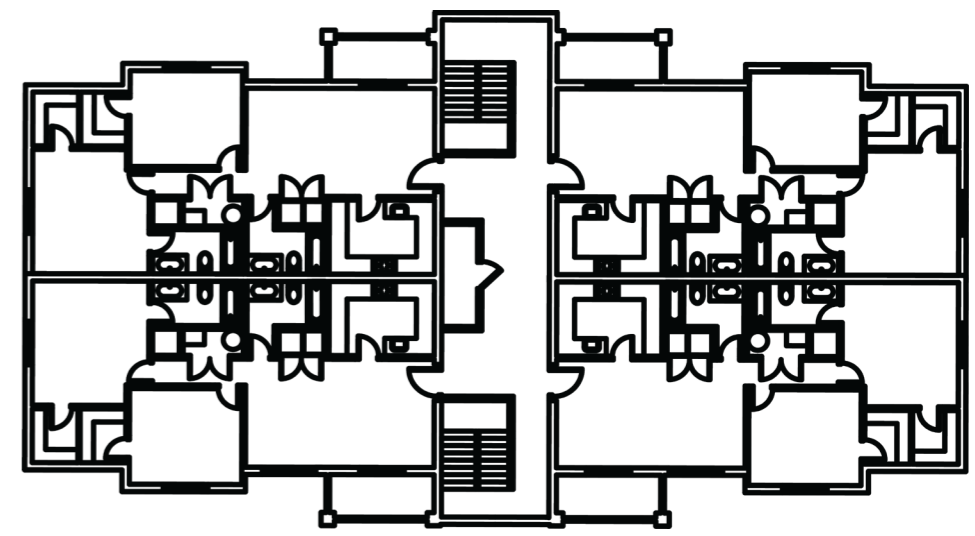
Video Tape Binding

Discarded videotape was repurposed as bias binding, transforming obsolete media into a functional construction detail.



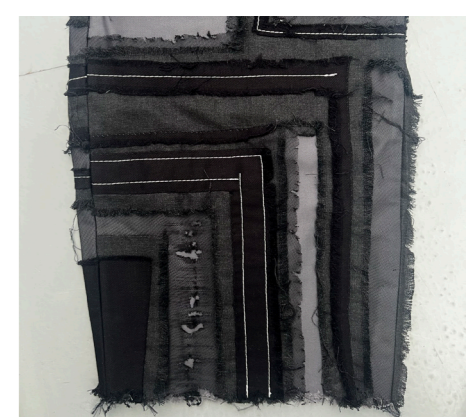
Hand-Finished Construction

Hand-sewn seams and an exposed inside-out waistband reveal construction as part of the garment's visual language.



Architectural Prints

Architectural floor plans were screen printed directly onto fabric, transforming spatial systems into wearable graphics.



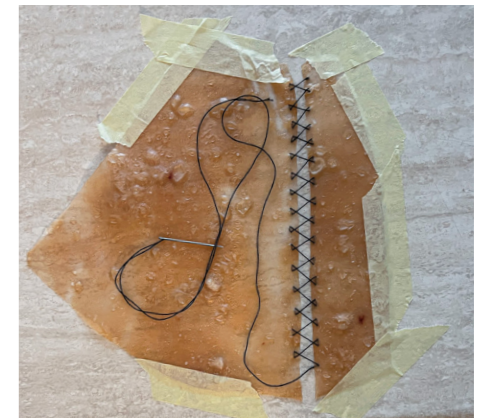
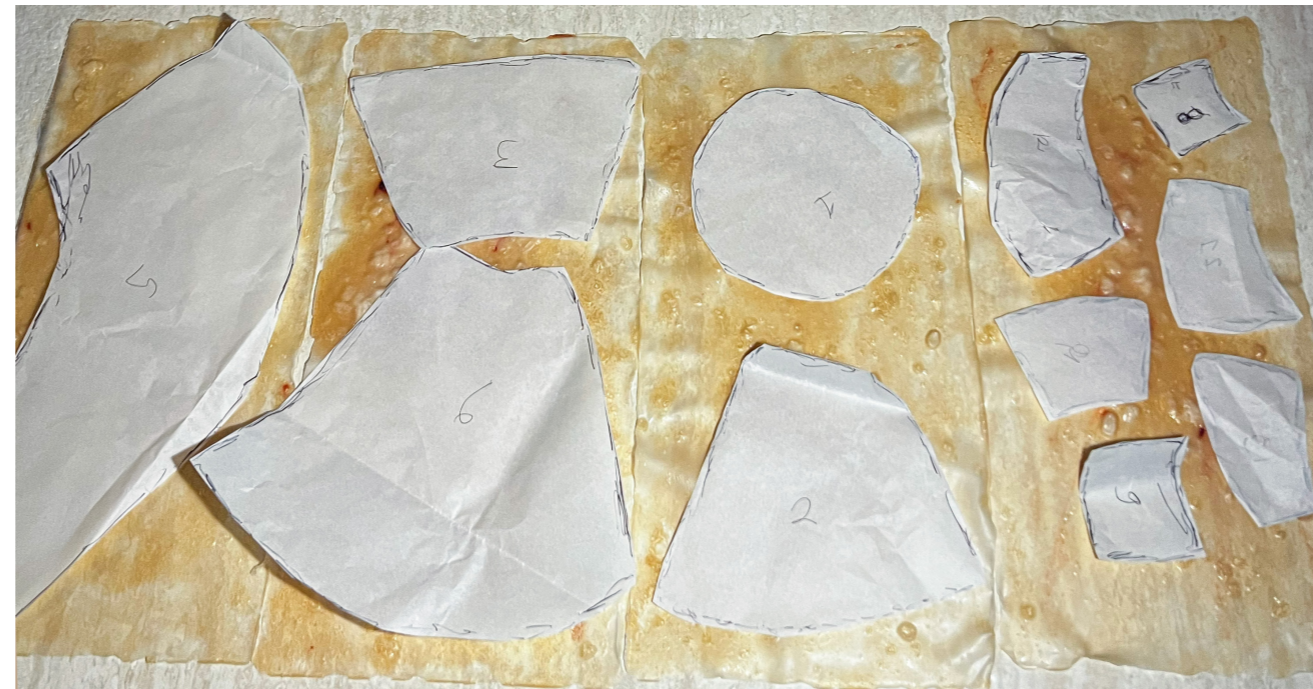
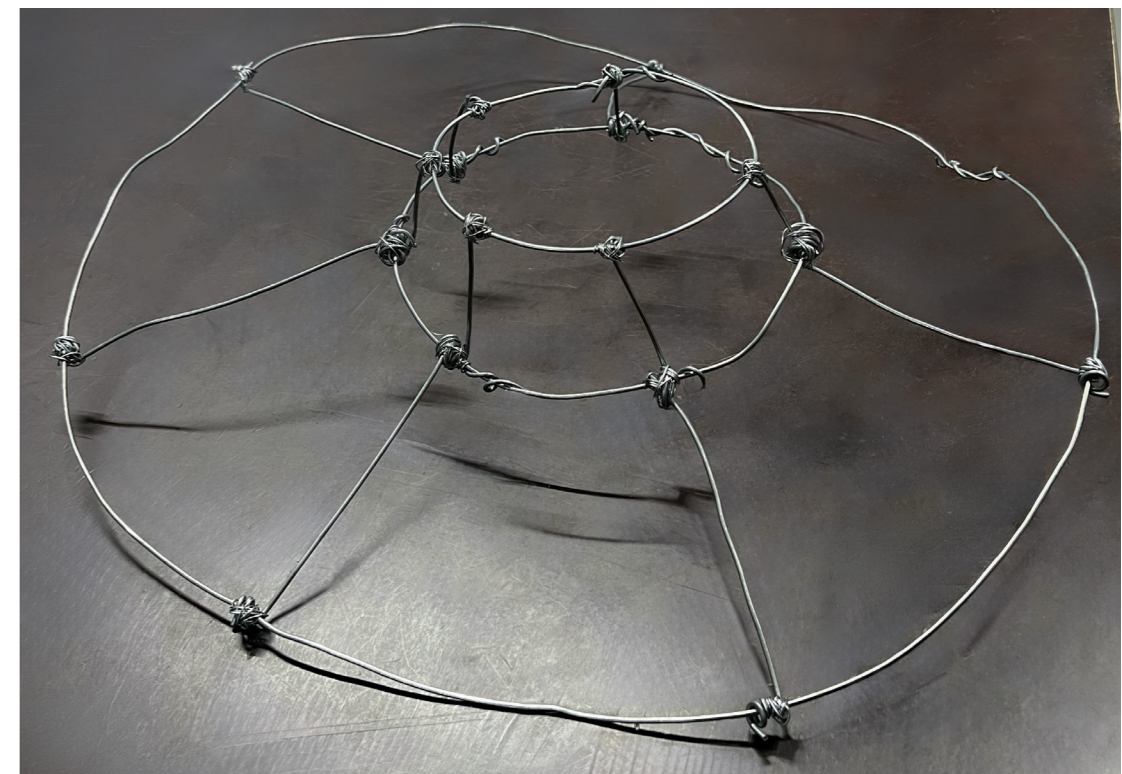
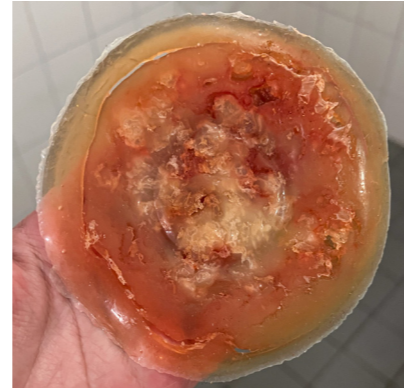
Reinterpreted Mola

Laser-cut layered fabrics reinterpret the traditional Mola technique, combining digital precision with handcrafted layering.

SECOND SKIN

2026

Second Skin explores how handmade biomaterials can become wearable structures. Custom-cast panels are hand stitched onto a wire framework, transforming a fragile material into a lightweight, protective form.



Biomaterial Development

Custom biomaterial sheets were developed through recipe experimentation and shaped using a vacuum-formed mould, allowing the material to become part of the design process.

Wire Framework

A custom wire framework was hand shaped to support the biomaterial panels while maintaining a lightweight wearable structure.

Hand Assembly

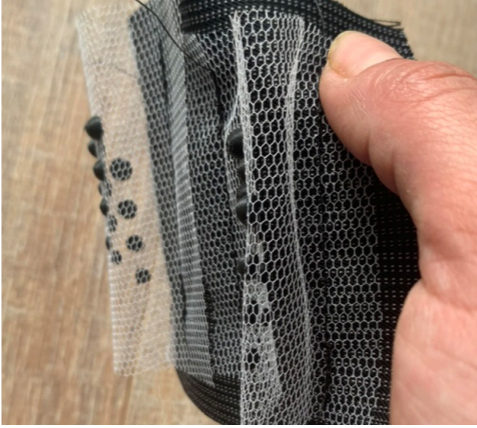
Each biomaterial panel was individually patterned, cut and hand stitched onto the wire framework, creating the final wearable piece.



DANGEROUS PROTECTION

2023

Dangerous Protection explores material transformation through upcycled PLA waste and additive manufacturing. Experimental textile structures and custom 3D printed components investigate protection as a dynamic relationship between fragility, structure and the body.



Printing on Fabric

PLA was printed directly onto sheer fabric, combining rigid printed structures with delicate fabric to express the tension between protection and vulnerability.

Material Reuse

Upcycled PLA waste was repurposed into experimental textile structures, revealing new possibilities for discarded 3D printing material.

Custom 3D Printed Components

Custom 3D printed components hold the fabric in place, making construction an intentional part of the garment's visual language.

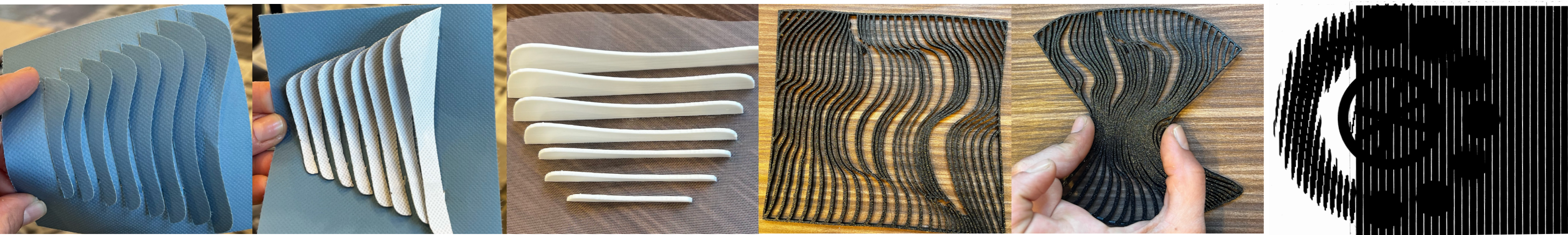


ECHOES OF THE RHINE

2026

Echoes of the Rhine is an interactive installation that explores how movement, sound and perception can reshape our relationship with the river. Combining scanimation, AI-generated storytelling and interactive objects, the installation gradually reveals hidden narratives as visitors move through the space.





Material Exploration

Different materials and fabrication techniques were tested to find the right balance between flexibility, structure and optical clarity for the animated surfaces.

Scanimation Development

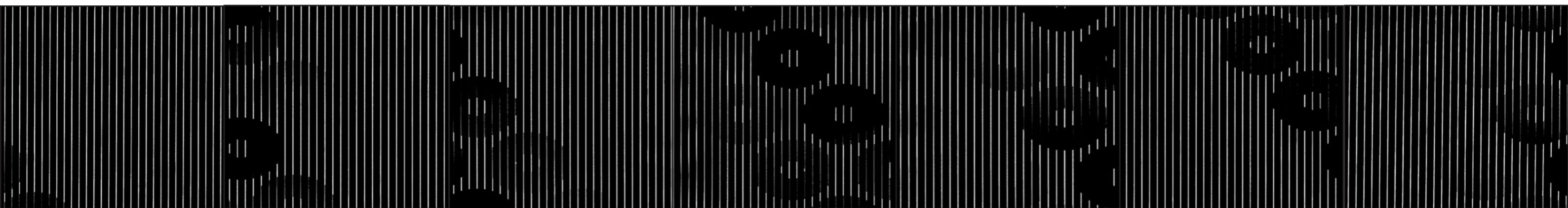
Multiple frame counts, layer spacings and graphic compositions were developed to refine how motion emerged through rotation.

Final Cylinders

Each cylinder combines a printed graphic layer with a rotating scanimation overlay, revealing hidden animations through optical interference.

Humming Stone

A 3D-printed master was vacuum formed into a mould and cast to create the central stone, housing an amplifier that plays the AI-generated voice of the Rhine.






Scanimation sequence

GET PEOPLE IN TOUCH WITH THE RHINE

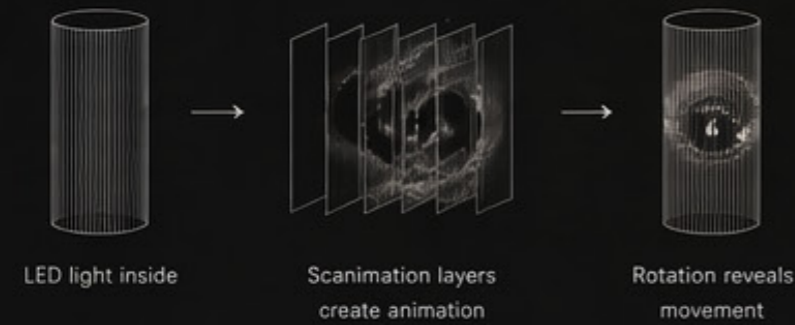
An interactive experience inspired by the Rhine. Five scanimation cylinders create shifting patterns of movement and illusion. At the center, a humming stone —peaks the river's stories— its memory, its flow, its future.



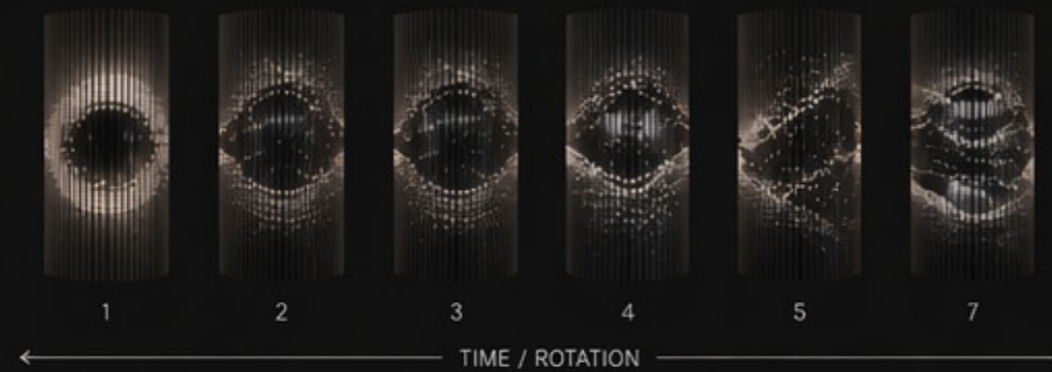
THE EXPERIENCE

- 
SCANIMATION CYLINDERS
 Five cylinders rotate at different speeds, revealing animated patterns through scanimation. Each one behaves like a current —connected, yet unpredictable.
- 
HUMMING STONE
 A subtle hum fills the space. As you come closer, the stone speaks. The voice of the Rhine shares fragments of stories, memory and questions.
- 
YOU
 Move through the space. Your presence influences what you see and hear. The river reacts to you.

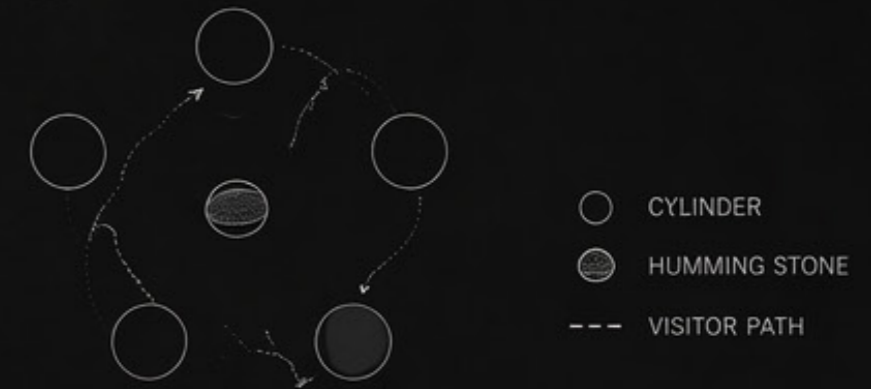
HOW IT WORKS



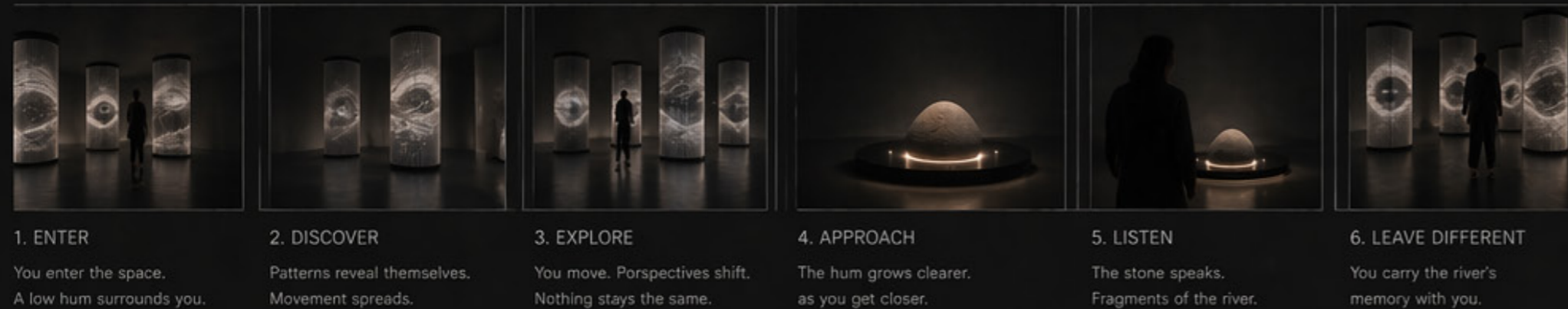
SCANIMATION FRAMES (EXAMPLE)



TOP VIEW



EXPERIENCE JOURNEY

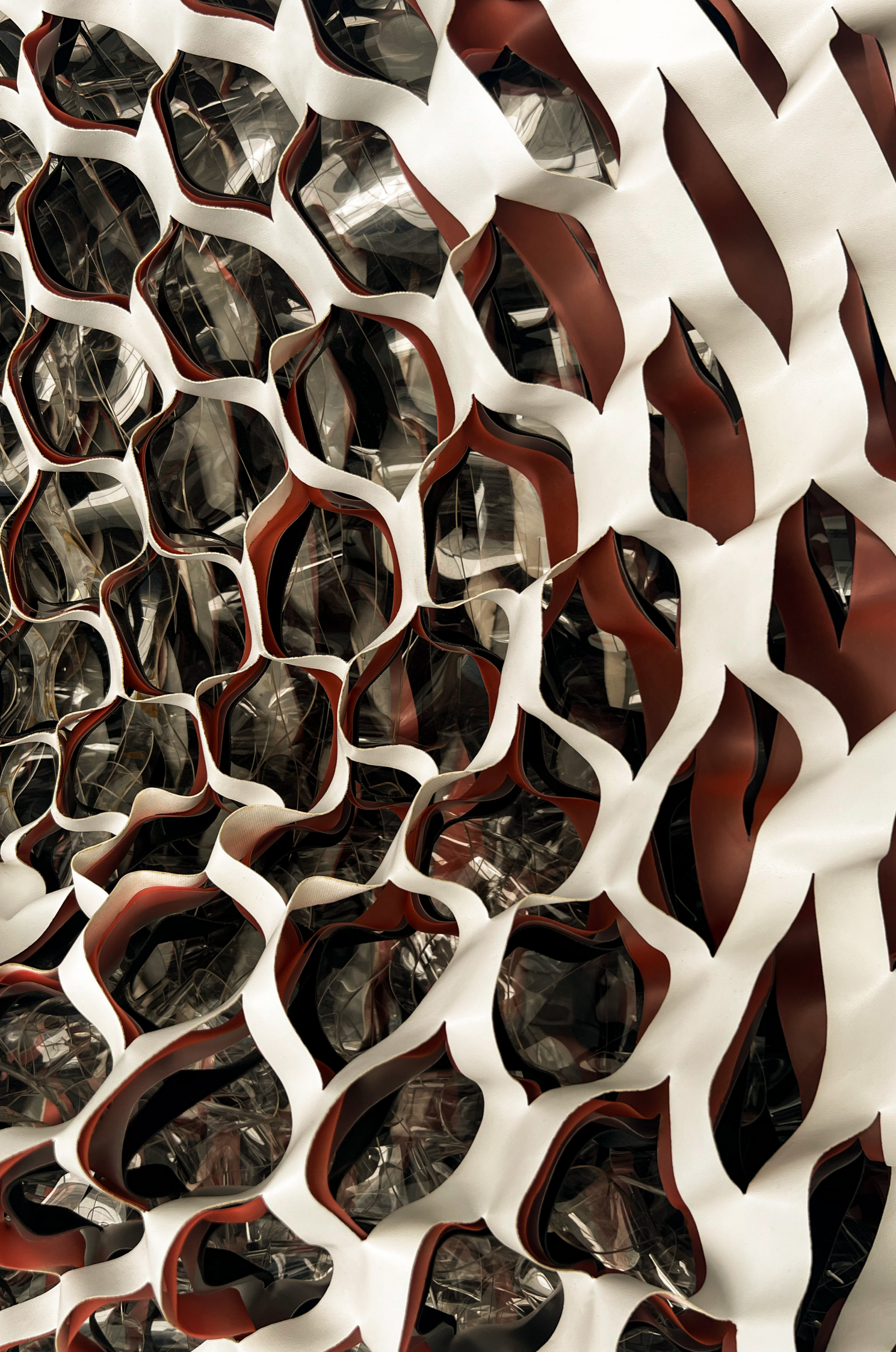


DETAIL – HUMMING STONE



Concept Visualisation

Visualisation of the intended full-scale installation, illustrating the spatial atmosphere and interaction between visitors, the scanimation cylinders and the humming stone.



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All work presented in this portfolio was designed and created by the author unless otherwise stated.

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