YASIN TUREDI
COMPUTATIONAL DESIGN PORTFOLIO

Yasin Türedi was born in Istanbul, Turkey. With his background encompassing multidisciplinary creative fields alongside Computational Design, he employs functionality as the ultimate purpose of his projects while explores their potential emotive responses. He describes the design as an expression form between the experience of the past and the predictable future.

Yasin brings a broad set of skills and passion to his work, with projects ranging from computational design, generative design, and product design, to Illustration, graphic design, interior design, and installation design. He devotes much of his time to broadening his horizons in the creative fields, learning new tools, mastering old ones, and exploring disciplines outside his comfort zone.

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EDUCATION

INDUSTRIAL PRODUCT DESIGN

UNIVERSITY OF KARABUK | Sep12-Jul17

Fine Arts & Design Faculty

Grade Point Average - 3.2

SKILLS

Rhinoceros
Grasshopper
Houdini
Adobe Suite
Cinema 4D
Keyshot / Vray
Fusion 360
Generative Design
FDM / SLA Prototyping
Python / C# Script
GH Data Structure
FEA Simulations

AWARDS

DesignNow | Autodesk Fusion 360

1st. Prize Winner /26 March 2016

İDDMİB | Birlikte Tasarlayalim 2

Honorable Mention / 01 November 2018

EXPERIENCE

INDEPENDENT DESIGNER

SUPERPERFORMANTE

Generative and parametric design consultancy for Superperformante sports car and hyper cars construction.

INDEPENDENT DESIGNER

FORECAST 3D

Computational design consultancy at Forecast 3D for making complex product design concepts and TPU prototypin with HP Multijet Fusion.

PRODUCT DESIGNER

O.M.S COLLECTION

Several design revisions according to consumer damands and provide consultancy service at O.M.S Collection's pressure cooker department.

PRODUCT DESIGNER

SO SANAT ODASI / PLUS DESIGN

Worked as productive team member in designing multidiciplinary fields such as product design, interior design, exterior design and branding.

PRODUCT DESIGN INTERNSHIP

MONESST ARCHITECTURE

Worked in various parts of the design process related to home furnitures. Designing Furniture collection, helping to presentation for clients and production drawing.

PRODUCT DESIGN INTERNSHIP

ÖZTİRYAKİLER

Graduate project that helps to making design a product together with the company. Developed a kitchen equipment for new habits and user experiences..

PRODUCT DESIGN INTERNSHIP

ŞİŞE CAM A.Ş

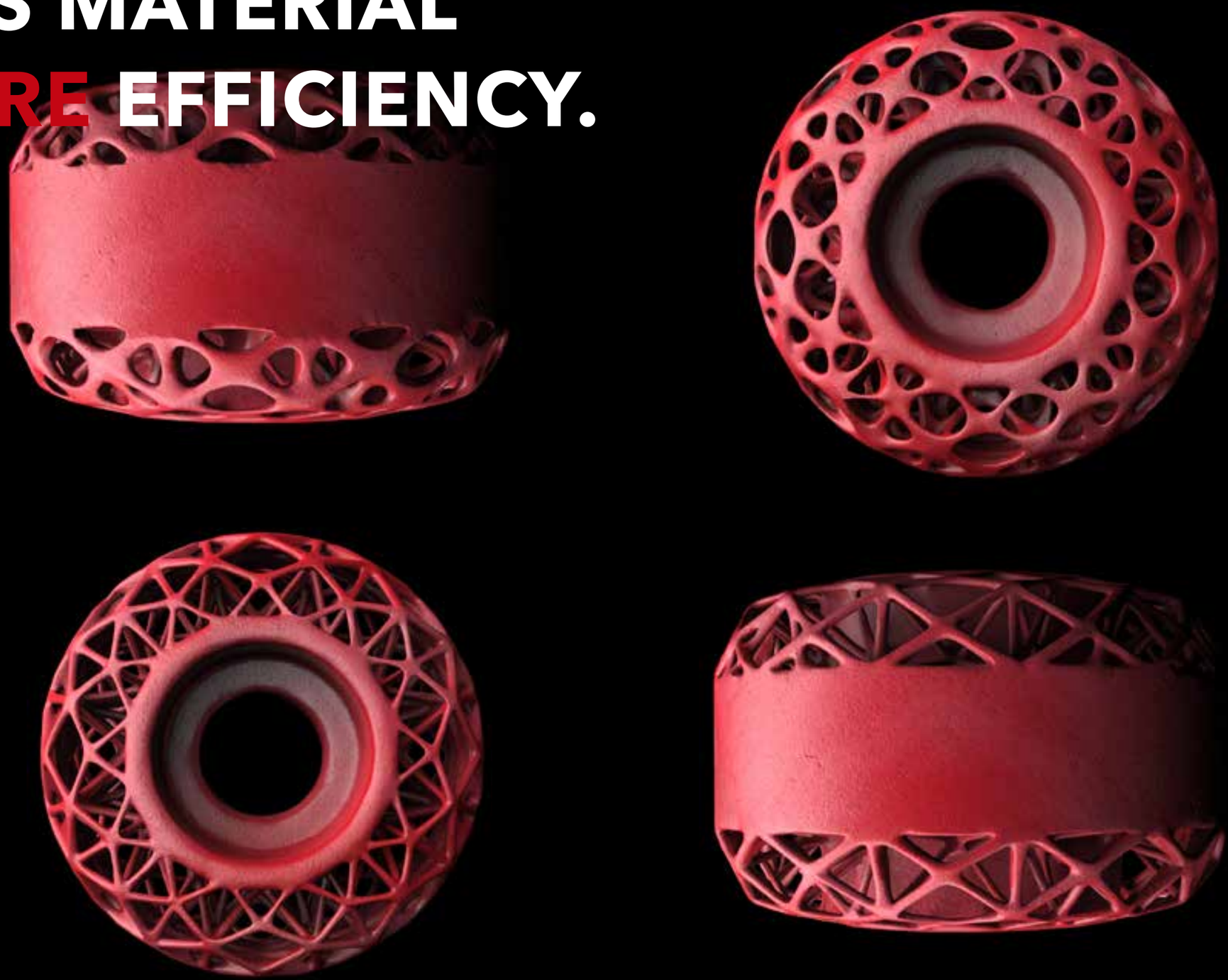
University and industry business association that helps to conduct two different project with design thinking. The both project was about giving costumizable design experiances to final products.

PRODUCT DESIGN INTERNSHIP

KALE GROUP

Worked on a several projects as an industrial design intern such as bathroom furniture , flsuh panel design and helping several professional designs for presentation.

LESS MATERIAL
MORE EFFICIENCY.



Critical details about skateboard.

Material character's of each part is the most important criteria of skateboarding. It makes change dramaticaly riding and doing trick performance. The lighness depends of the materials always.

Skateboard wheels must be tought material and have to hold the road when skating. So wheels must produce with rubberish material. When wheel heating rubber may melt , so thickness of the wheel is important issue also.

Flexibilty and density have cross realtion on between eachother. So we have to protect optimum density and try to do more flexible components for skateboarding.

Lightness

Material

Road Holding

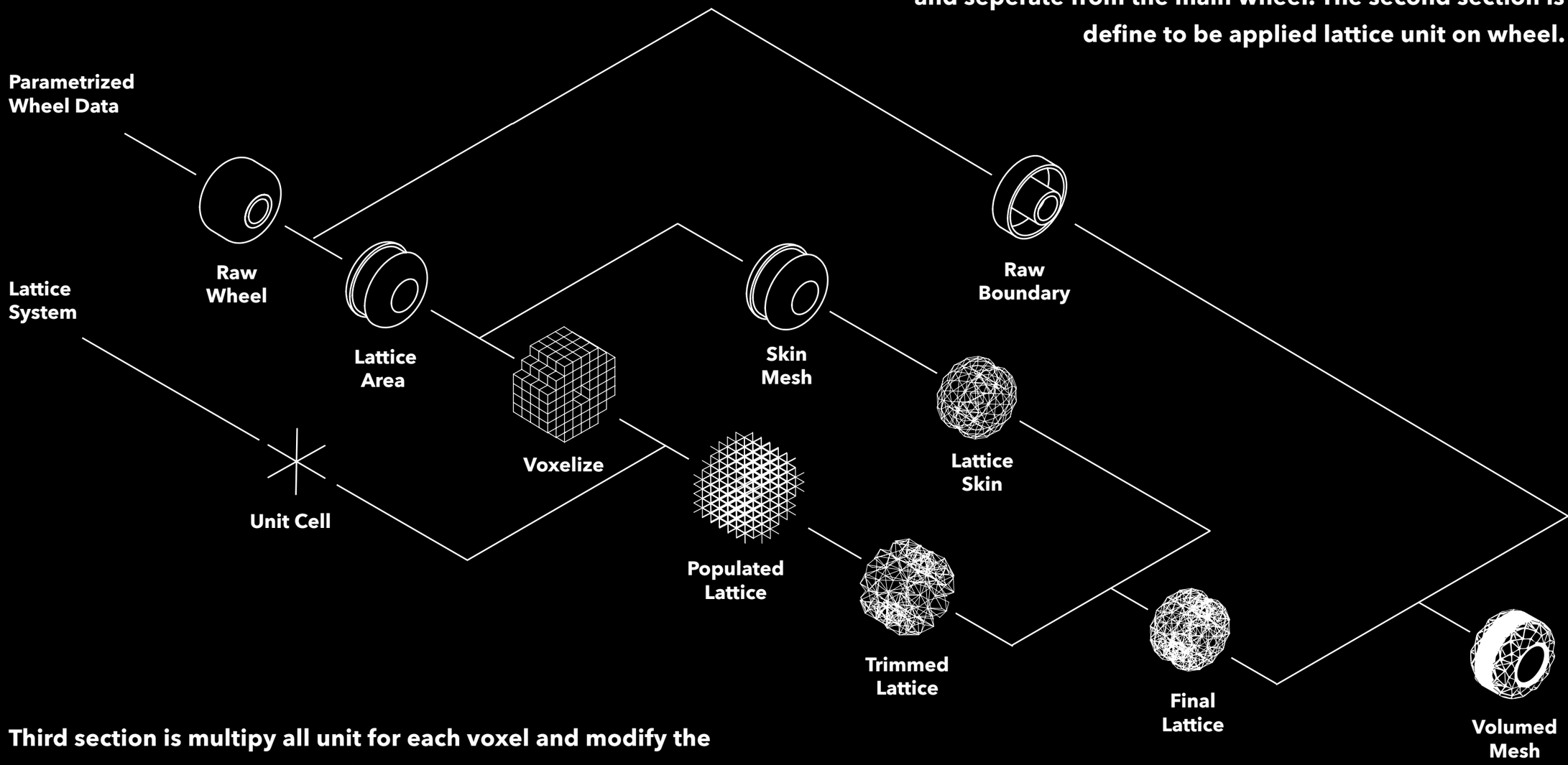
Size

Flexibilty

Density

Evolution mapping.

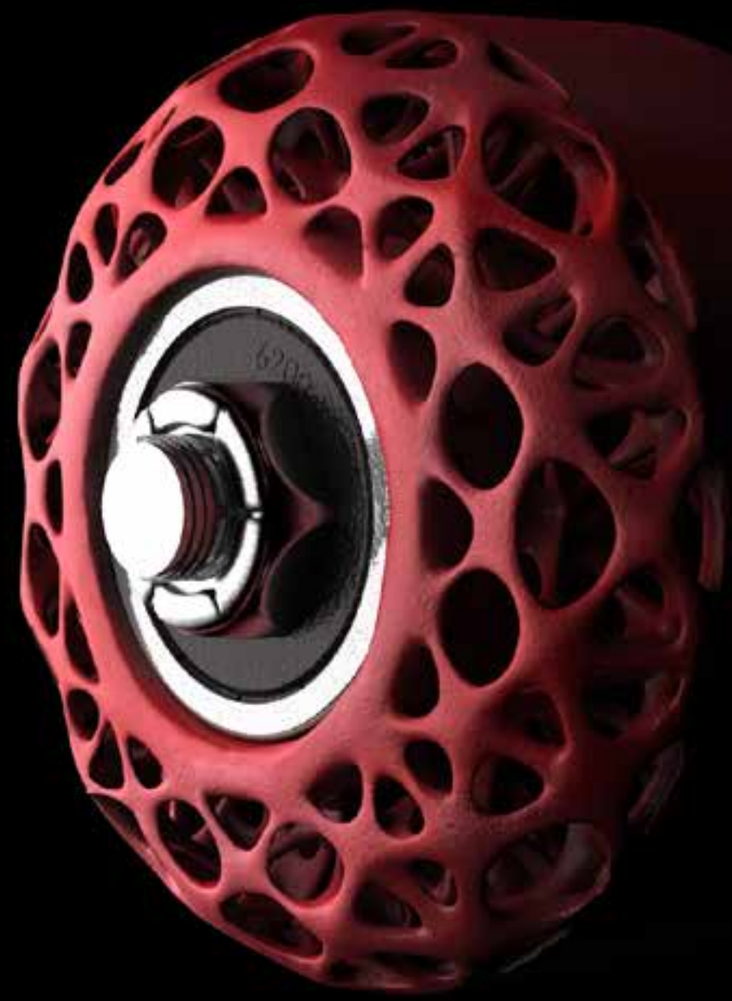
Lattice wheel process occur with three different seciton. The first section is define to raw boundry for keeping solid and seperate from the main wheel. The second section is define to be applied lattice unit on wheel.



Third section is multipy all unit for each voxel and modify the spesific units for final resul. After that lattice and raw boundry can be merged together and volumed to mesh for printing.

LATTICE SKATEBOARD WHEEL DESIGN.

In this lattice design we aimed to getting more lightness but more efficiency. Each subdivided cells connect eachother with five or more beams. The contacting area between ground and lattice are thicken more than the average thickness. This wheel also able using only regular skate areas such as skatepark. Otherwise if use at urban areas the pabbles may stick inside and can be cause of the lost balance. There is another non subdivided (wireframe) version of this wheel also. Wheel able to arrange with subdivision and effect the looking too.



Stop prototyping
Start producing

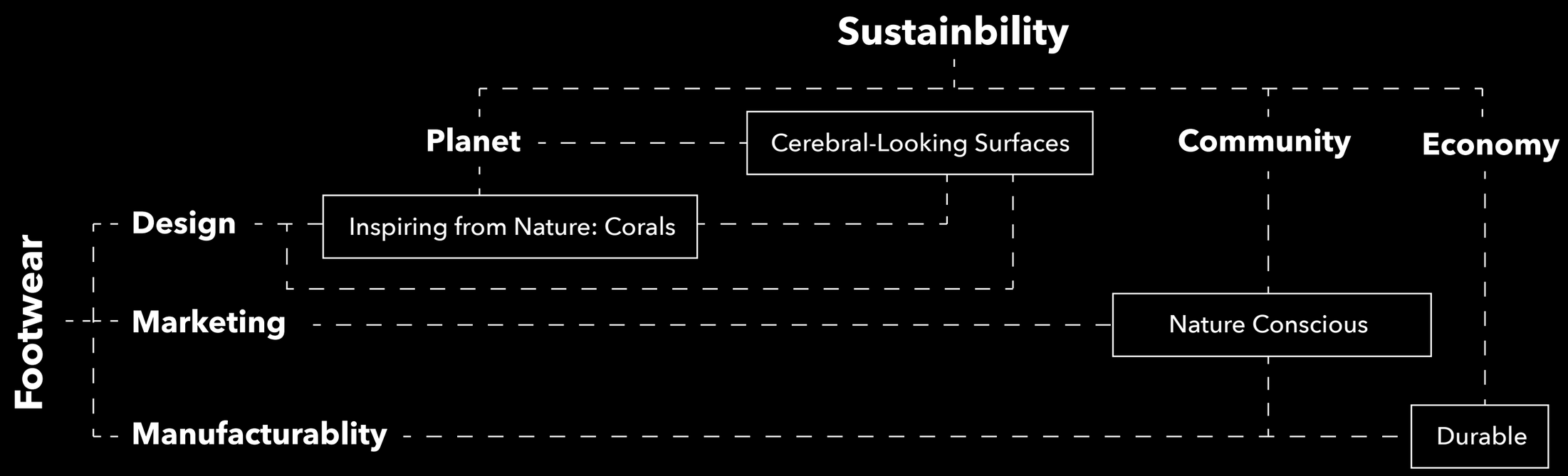
Lattice skateboard wheel currently only able to producing with additive manufacturing technique and this methods can changible for the materials and durability. Skateboard wheel producing from rubberish materials. So we have to get same quality with similar materials such as resin or half elastomeric other printable materials.Therefore we can say Vat photopolymerization techniques more suitable to producing this wheel . The other common prtinting methods suc as powder also can be good second option material experince. But material extrusion such as FDM techniques not show us to stability for all products.

Powder based
MFJ Print
Output

Can we illustrate
Sustainbility as a form ?

What is the importance of sustainability for the oceans?

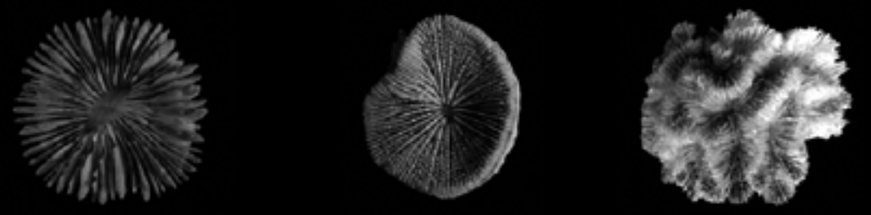
Oceans, seas and coastal areas form an integrated and essential component of the Earth's ecosystem and are critical to sustainable development .They are also the primary regulator of the global climate, an important sink for greenhouse gases and they provide us with water and the oxygen we breathe. Also, oceans host huge reservoirs of biodiversity.



Natural Growth of Corals

Growth, the increases in cell size and number that take place during the life history of an organism.

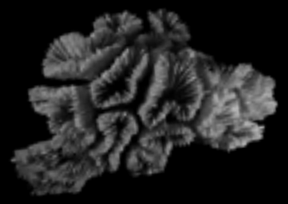
Free-swimming coral larvae attach themselves to submerged rocks or other hard surfaces at the edges of islands or continents to begin the process of forming coral reefs. Different species of coral grow at different rates depending on water temperature, salinity, turbulence, and the availability of food.



Cynarina Lacrymalis

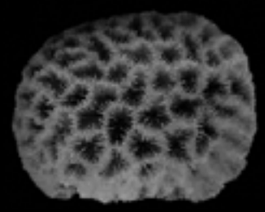
Scolymia

Mycetophyllia Danaana



Lobophyllia Corymbosa

Parascolmia



Isophyllastrea Rigida

Physical

Simulation

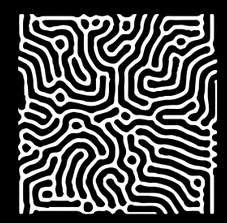
Reaction-Difussion

Reaction-diffusion systems are mathematical models which correspond to several physical phenomena. The most common is the change in space and time of the concentration of one or more chemical substances: local chemical reactions in which the substances are transformed into each other, and diffusion which causes the substances to spread out over a surface in space.

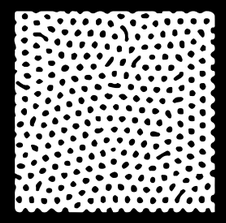
In this project we can simulate the demanded cerebral surface with using the Kill and Feed parameters. Each Feed/Kill ratio gives us a different surface experience.

Feed=0.01
Kill=0.05

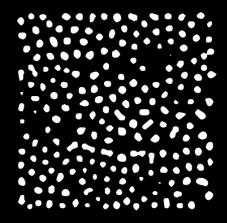
Feed=0.05
Kill=0.115



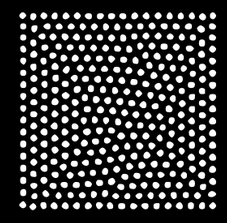
Feed=0.04
Kill=0.1



Feed=0.03
Kill=0.085



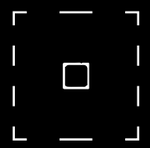
Feed=0.02
Kill=0.078



Feed=0.04
Kill=0.0105

Midsole Evolution

The Difussion - Reaction simulation requires kill / feed rate and referance surface to start.The iteration of the simulation must continue until fill all represented boundary what designers aimed. After end of the ilterations the midsole must be modify for assamble with other parts.

	Reference	Ilteration-1	Ilteration-2	Ilteration-3	Modified Result
Iconic Display					
Midsole Evolution					

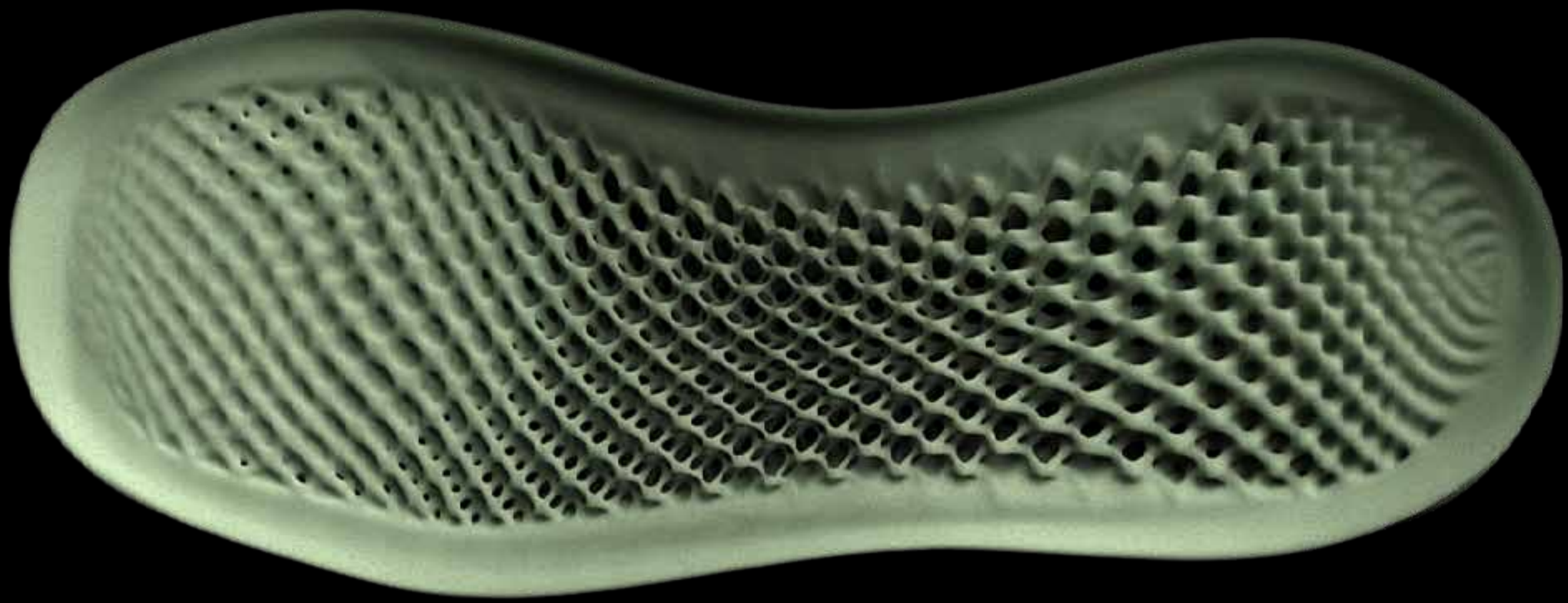
Cerebral aesthetics on Footwear Design

This project aimed to raised sustainbility awareness and exploring new aesthatics for footwear inudstry. This reaction difussion simulation also can be used with different parameters for create a new collection of organic midsoles concept. All easthatics surfaces generated by design algortihm. Therefore designers no need to carving new aesthetic forms so they can interest with more critical issues during design process.

Left View

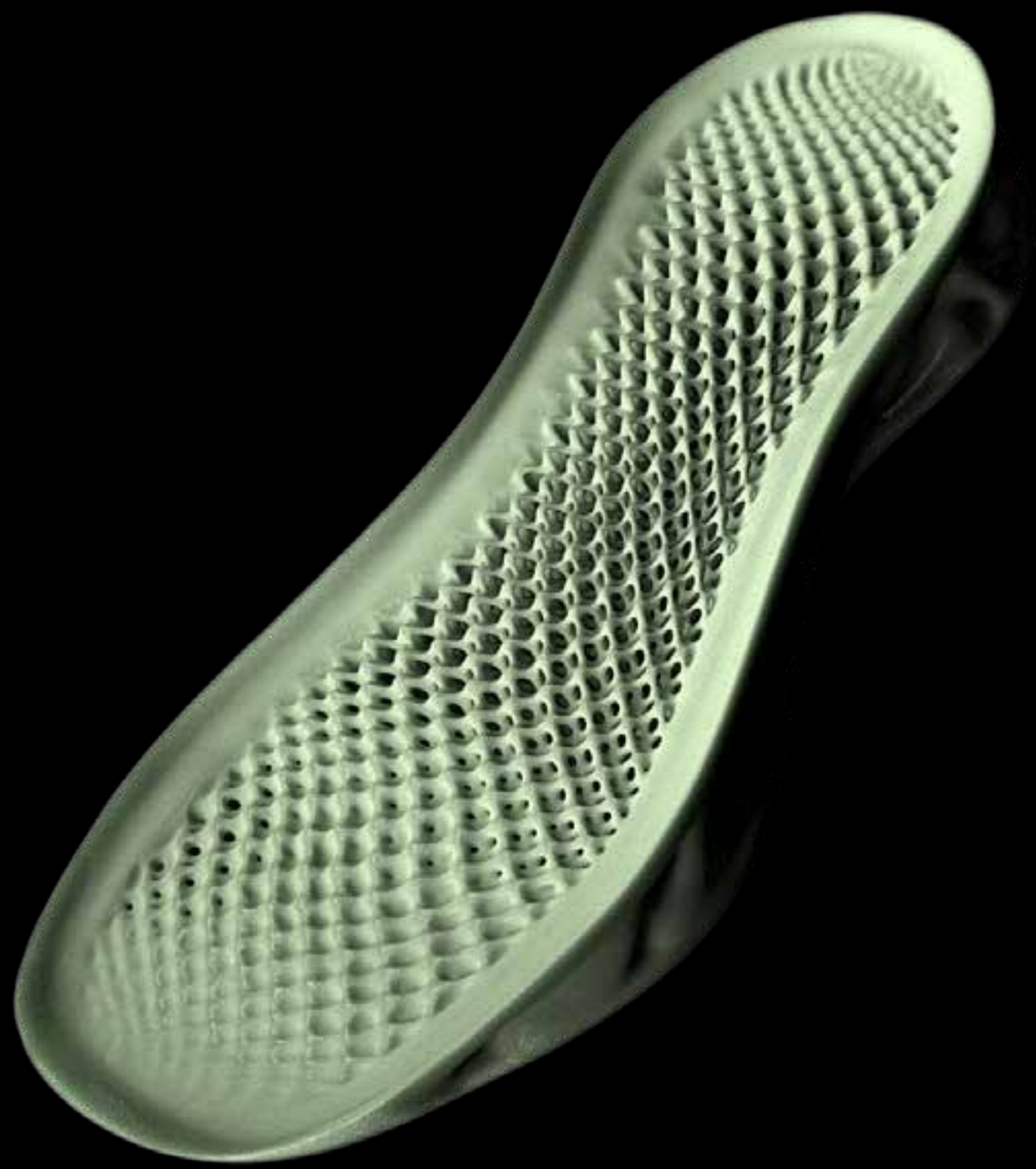
Right View

Elastomeric
Lattice Midsole



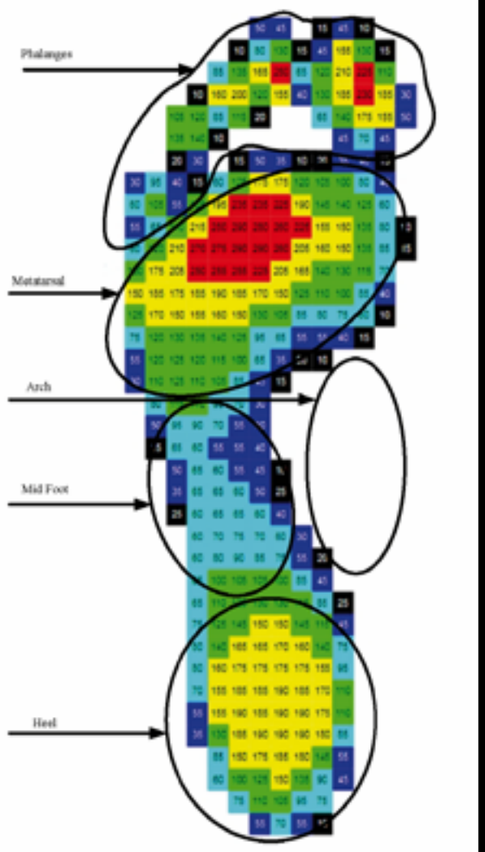
Personlize your midsole with Shoe Data

With the spread of the additive manufacturing, user experience began to evolve from the general to the specific. Nowadays personalized production is look more possible implement to our lives. Also, big data and customer demands play a big role in personalized production. Data gives us to cooked definitions and costumer gives us to specific demands. Based on these developments, we created a personalized shoe sole that can be designed according to the needs of the user. Beyond the stylish looking the main feature of this midsole ,can be applied according to user's footpresure analize and can give the optimal density for each pressure point. Therefore this midsole can be use for , professional sports ,orthopedy daily use and more.



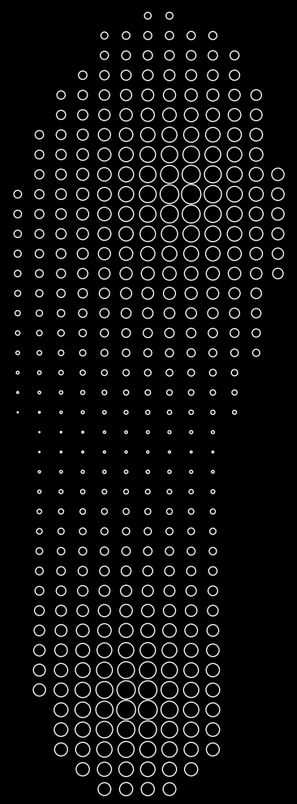
Identification

Pressure Analysis



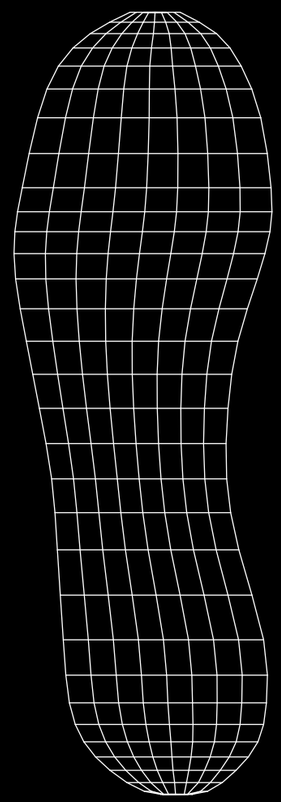
Zone splitting of planar surface & foot pressure analysis by region.

Density Distribution



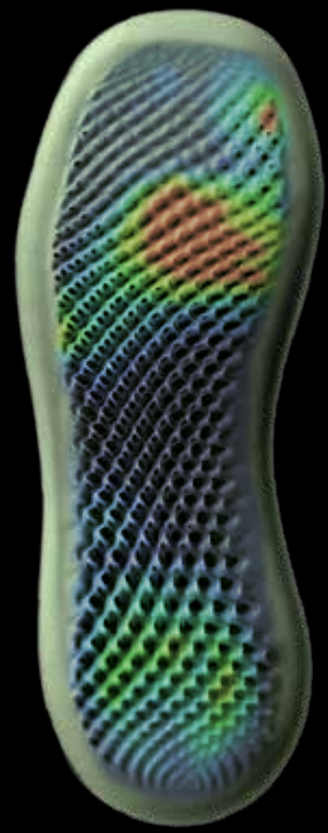
Calculating distribution of the densities for each unit cells.

Voxel Mapping



According to foot topology generating the voxel mapping.

Meshing



In line with analysis, creating a mesh with variable thickness.

Similarties between Shoe Data & Footprint

Shoe Data

Creating completely aesthetic and unique Shoe Data using with person's walking-running habits and foot anatomy.

Identification

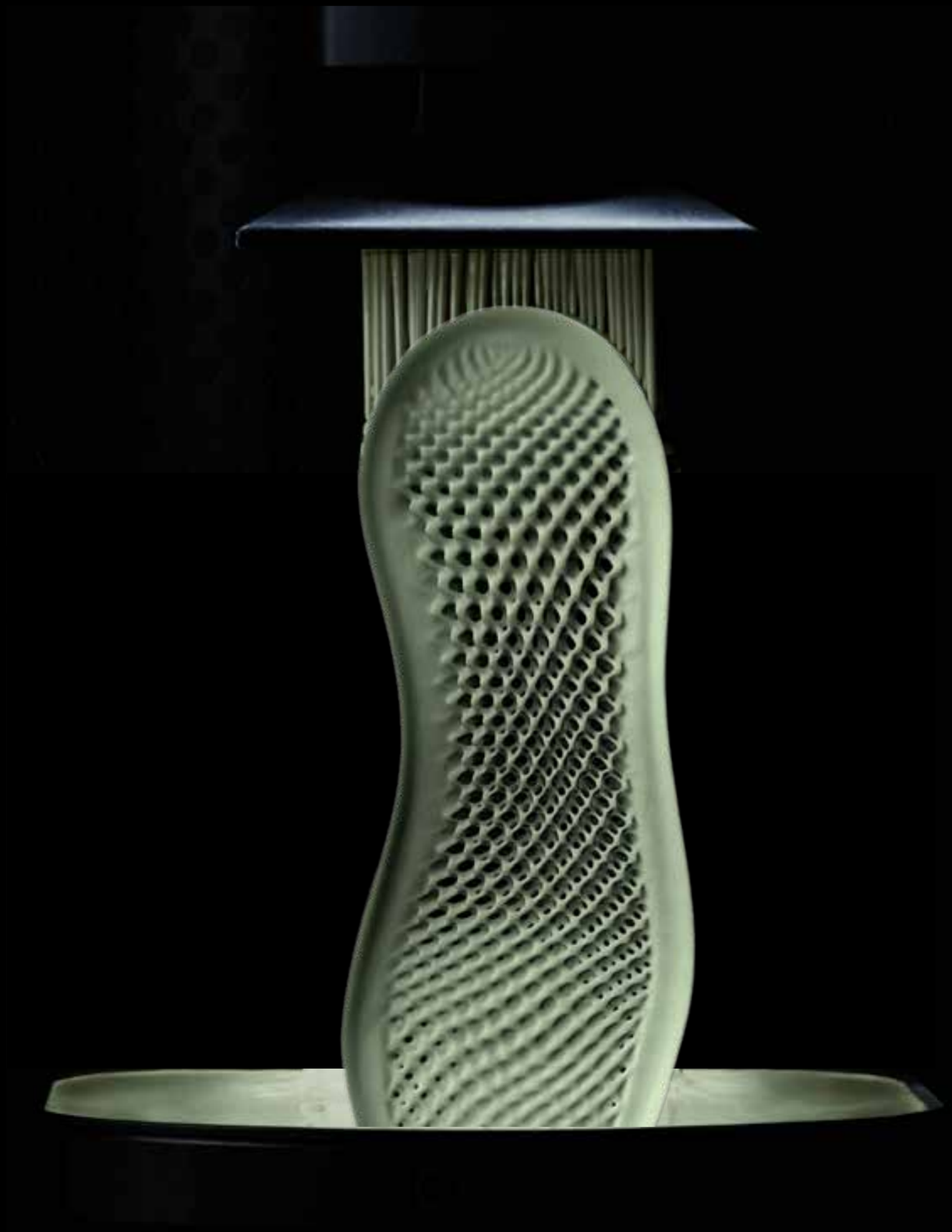
After looking at the footprint values of the user, starting to modify the density of the midsole design for using different professions such as orthopedy, running.

Footprint

Footprints are the impressions or images left behind by a person walking or running. Footprints can be followed by tracking and can provide evidence of activities

Identification

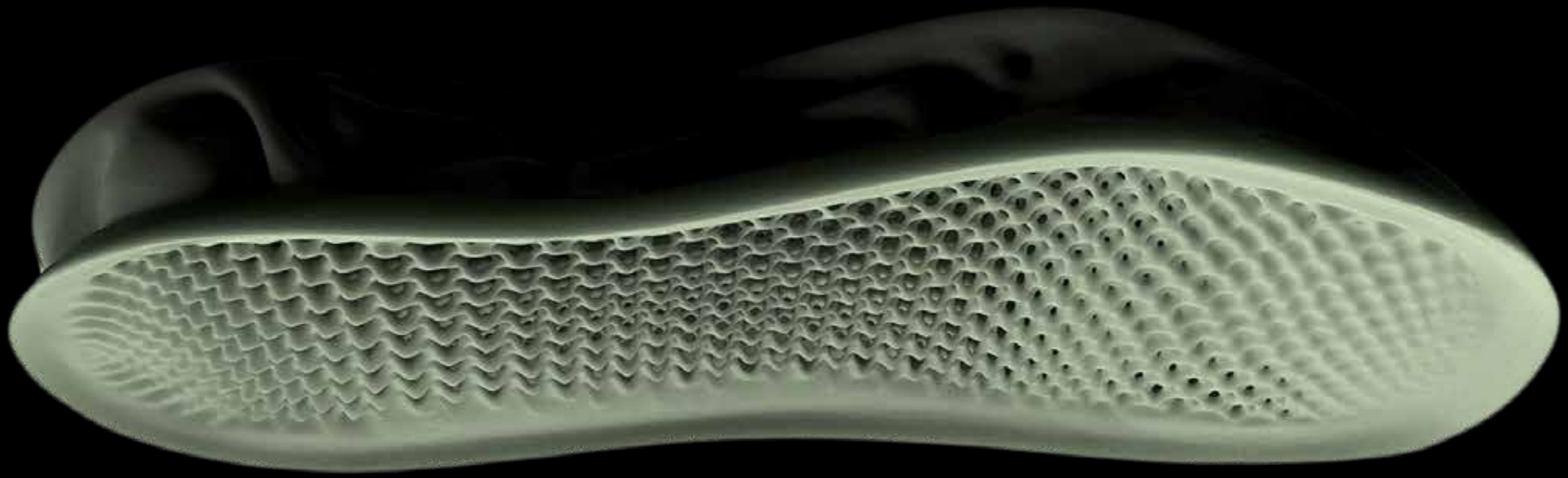
Footprints include the owner's features so it makes them uniqe. a is also possible to access many different information from various images of the foot. Various foot problems are also included.



Additive Manufacturing & Material

Carbon: Elastomeric Polyurethane(EPU)

Niche products can be very expensive or laborious with traditional production methods. However, we can say additive manufacturing produces niche products faster and more economically than other manufacturing methods. Printing the products as an end-use part without any assembly expedites the process considerably. If we use "auxetic" forms in design that contain many different functional features, can perform many functions at the same time with only one material. Auxetic forms also can give the design such as flexibility, light-weighted which affect production speed positively. This design printable with Carbon's Elastomeric Polyurethane so the midsole design can be highly elastic, tear-resistant, and resilient.



EXPERINCE MORE
THAN YOU FELT BEFORE.

JBL

JBL Flip 4 (2020)

In this project we will inspect JBL Flip 4’s concepts design which is designed with 2020’s technology and design trends. In this design we aimed to achieve different experiences like lighting effects , faded colours in addition to JBL’s sound experience. The lighting unit can be used not only functionally but also decoratively in product design and similar creative fields as an element that increases the value of the design. This detail gives different experiences for the user and also makes it easy to distinguish between other same level products in the market.

ANYLISIS

In the beginning of the new decade, design and technology getting more together than previous decades. New manufacturing methods and digital fabrication techniques are bringing us to new horizons of new design methods. Technology is taking a big role in determining new trends. We are expecting to see retro dystopian future, CGI, AI, and similar technological innovations keep being trends. Not only the design field but also different creative fields such as the music industry are affected by these trends. Synthwave is a perfect example of the music industry. In addition to that, we can also give an example in the movie industry such as Blade Runner movie too. But most important milestone happened was releasing of Cybertruck by Tesla. After this release people acknowledged what are the upcoming trends in the future. This breakthrough led to many different options for designers and artists who want to materialize their unusual ideas.

Before we started this project we searched some inspiring details about new trends of 2020's such as ambient, color combinations, new experiences, materials, etc.

Distopian Future

Urban Culture

Synthwave

Neon Glow

CyberTruck

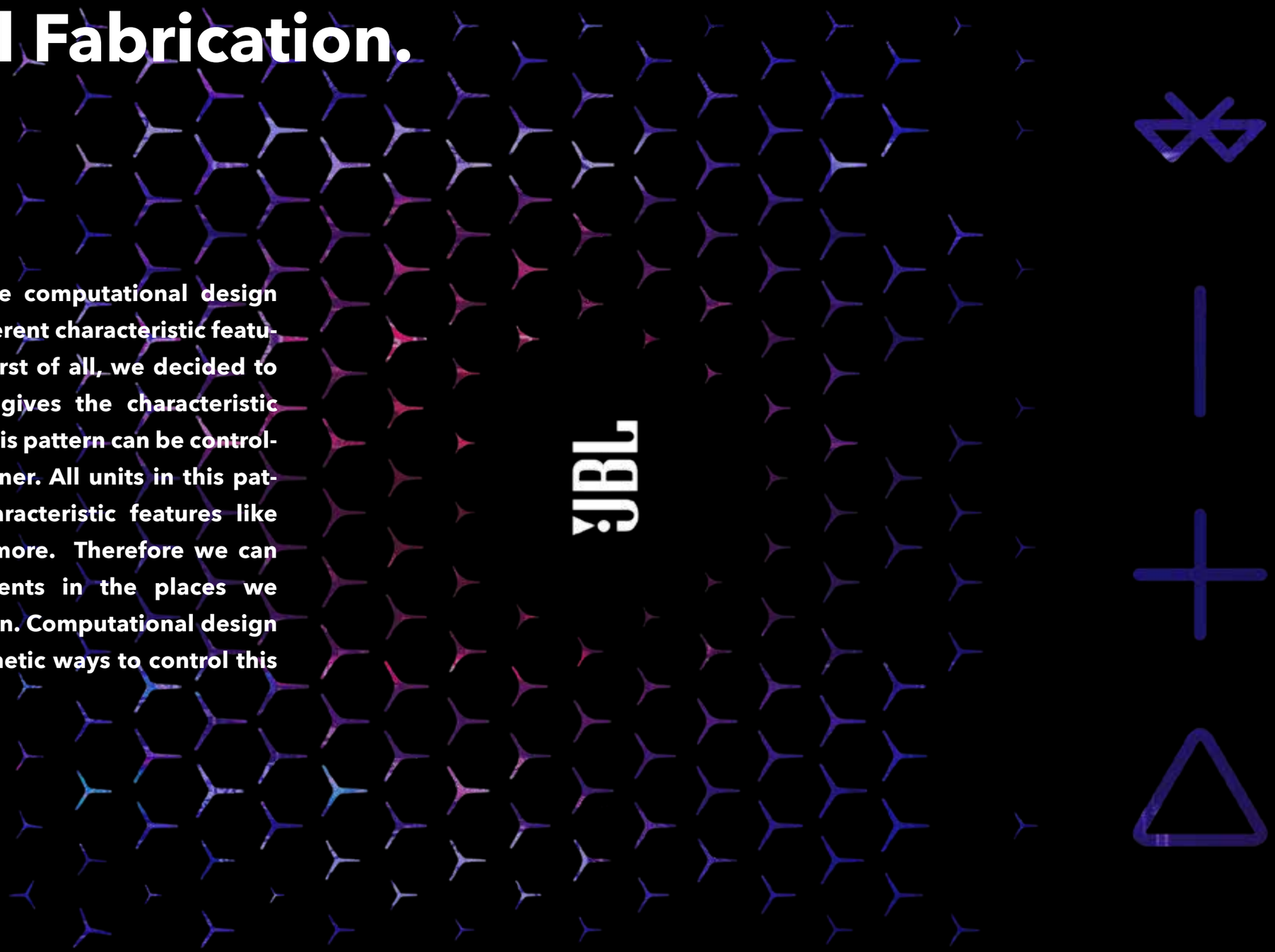
AI

CGI

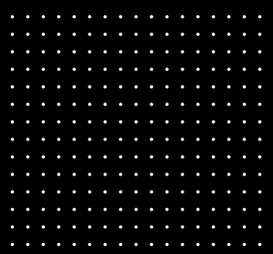
HI-TECH

Pattern Generation & Digital Fabrication.

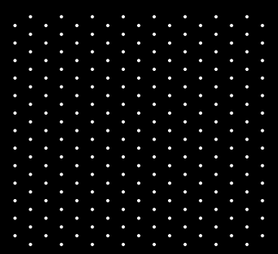
We decided to use the computational design method to identify different characteristic features for this product. First of all, we decided to create a pattern that gives the characteristic detail of this design. This pattern can be controlled easily by the designer. All units in this pattern display some characteristic features like scaling, rotating, and more. Therefore we can place necessary elements in the places we desire within the pattern. Computational design helps to generate aesthetic ways to control this pattern properly.



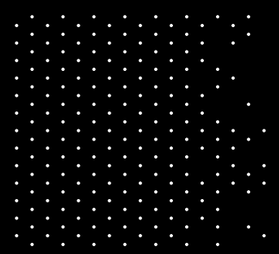
Pattern Evolutuion.



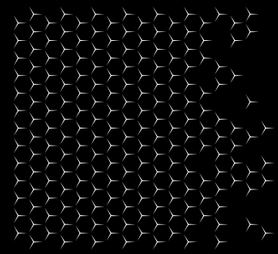
Simple Grid



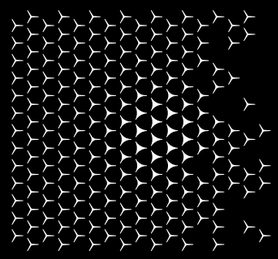
Hexagonal Grid



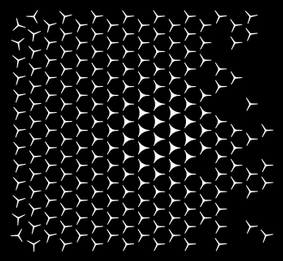
Randomize



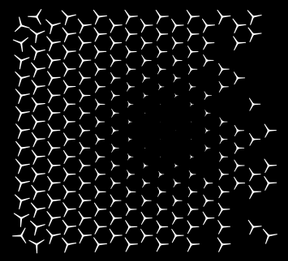
Polygon Creation



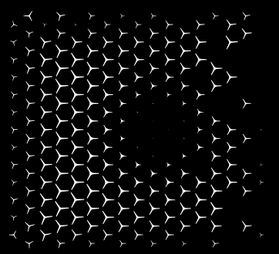
Area Attraction



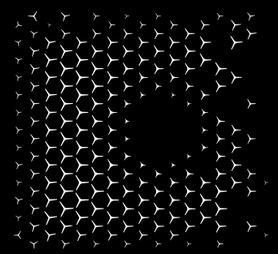
Rotation Attraction



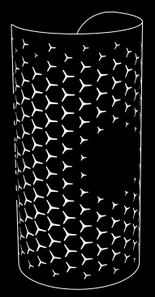
Logo Attraction



Corner Fade



Remove Bugs



JBL’s pattern evoultuion contains 10 different generating process. After searcing trend and analysis we choose the best pattern to expres distopian futurism vibe and starting with simple gird. The second process of pattern is shifting some coulms from grid and creating hexagon pattern for getting more futuristic visualize. On pattern surface we have control buttons so we have to pass to buttons from the grid softly so we reduced right side coulmn points randomly and it gave us smooth gredient trough the button. The next unit creation is choosing the best shape to repeat of the pattern. After those are processes we apply 3 different attractor field for more easthetic looking toward to edges and logos.

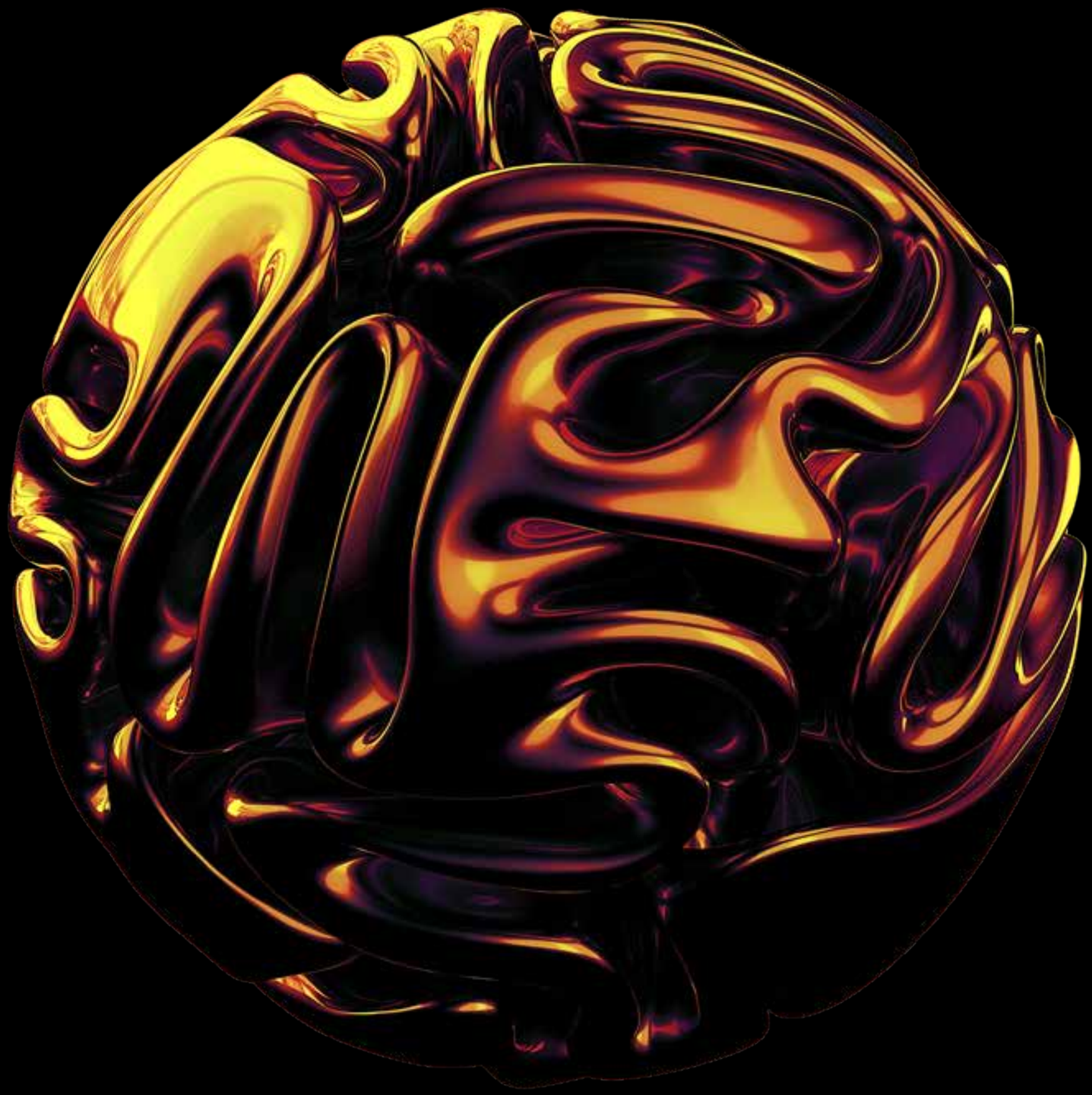
BOUNDED

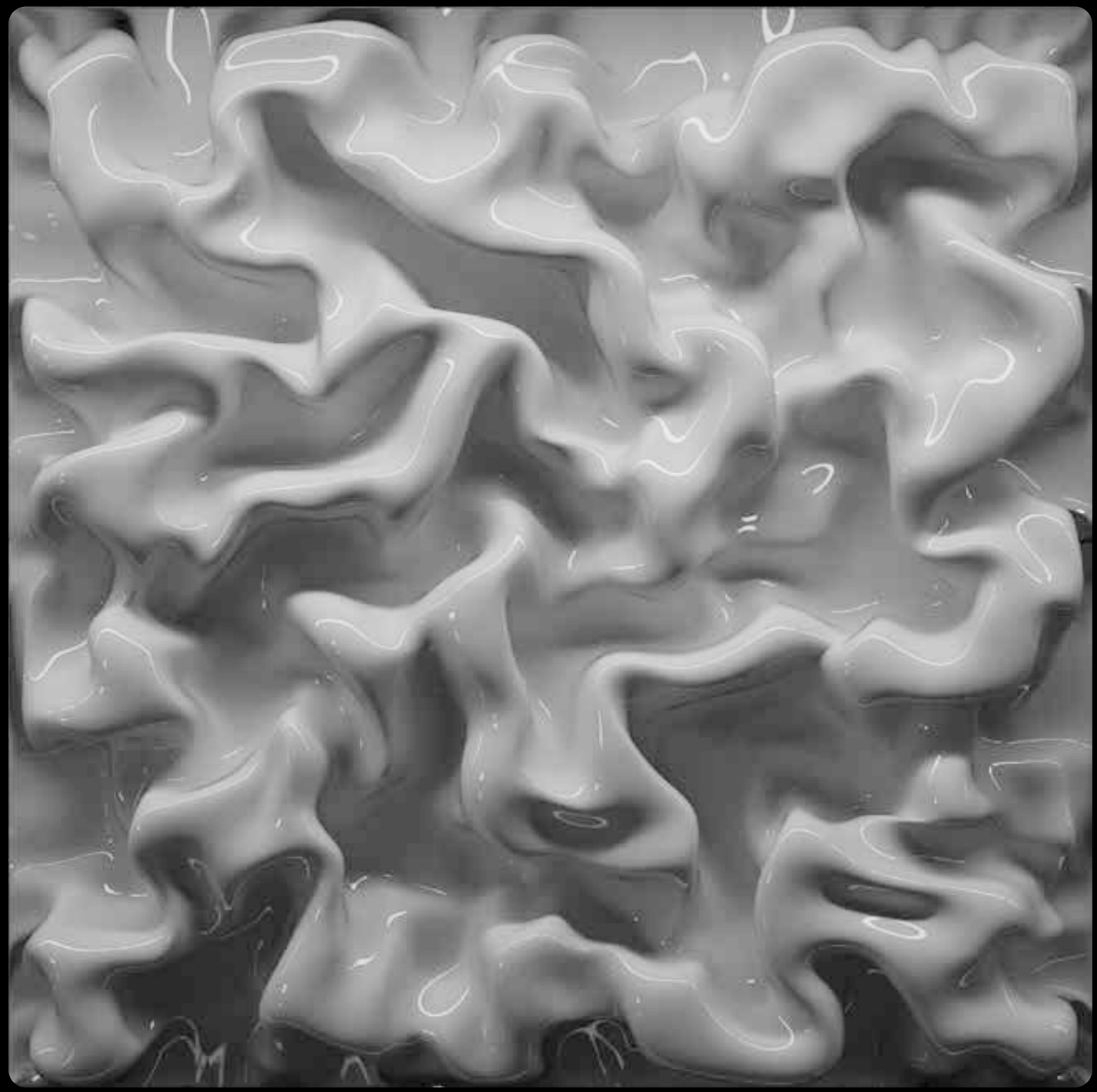
MOLTEN SURFACES.

In this section I introduce my abstract artworks series, they all generated by computer algortitm and there is no any modify except color balance.

Liquids can change their form when interacted with another surface. These forms change might vary depending on adhesion, temperature, cohesion, gravity and more. What if liquids observe in zero gravity, how would they behave? And also what if we try to control their motion area, how they could react? These questions drove me to simulate liquids with bounded from several basic shapes in zero gravity.

The first artwork was used by singer Gamba De Bass as his album cover.





THANK YOU

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