

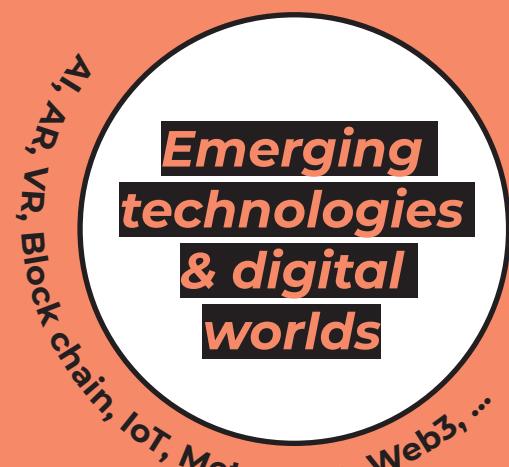
DIGITAL FASHION: THE REDEMPTION OF DIVERSITY, EQUITY, & INCLUSION?

POLITECNICO DI MILANO
MASTER'S DEGREE IN DESIGN FOR THE
FASHION SYSTEM

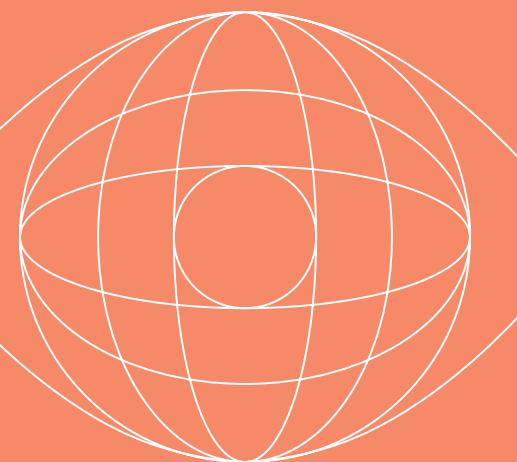
HANANEH SEFIDABI
ACADEMIC YEAR 2020-2021

WHAT IT'S ALL ABOUT

&



AI, AR, VR, Block chain, IoT, Metaverse, Web3, ...



Biases, inclusivity, prejudice, discrimination, marginalization ...

Can digital fashion and emerging technologies foster social inclusion, diversity, and equity within the fashion system?





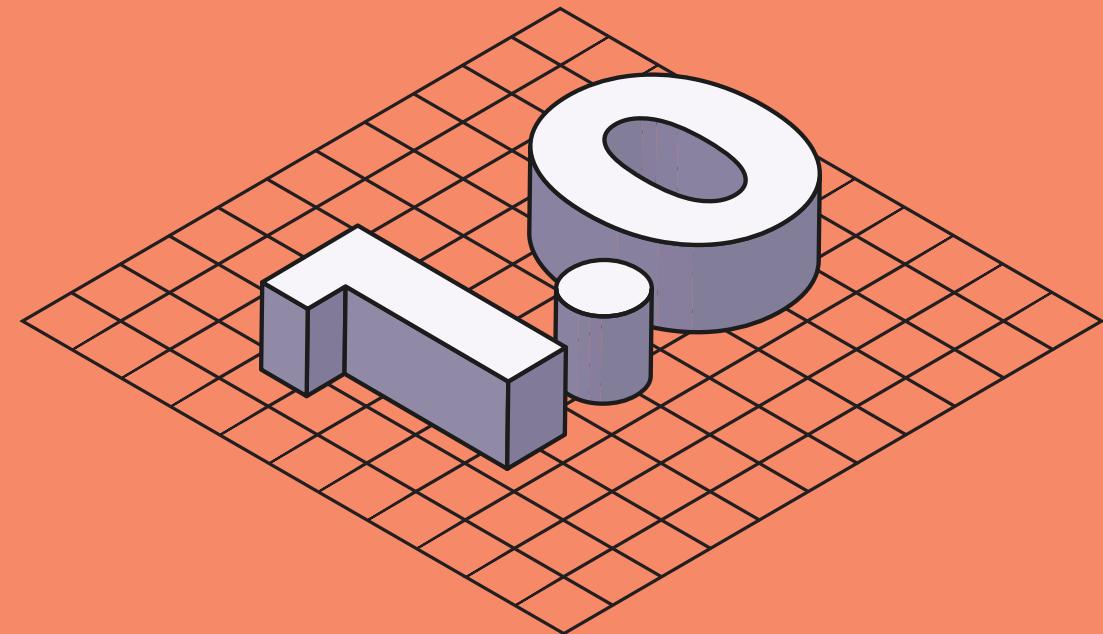
This study is carried out at the intersection between digital worlds, social debates such as Diversity, Equity, and Inclusion, and the world of fashion and design.

Objectives

- 1) The significance and relevance of the DEI trinity in the contemporary global society and fashion system?
- 2) The origins of the digital fashion & how digital fashion can influence our lived experiences?
- 3) Whether and how digital fashion may foster DEI culture?
- 4) How can designers and executives leverage opportunities afforded by the digital realm to amplify the DEI culture inside the fashion system?

PART 1

DIVERSITY, EQUITY, & INCLUSION



DEI TRINITY

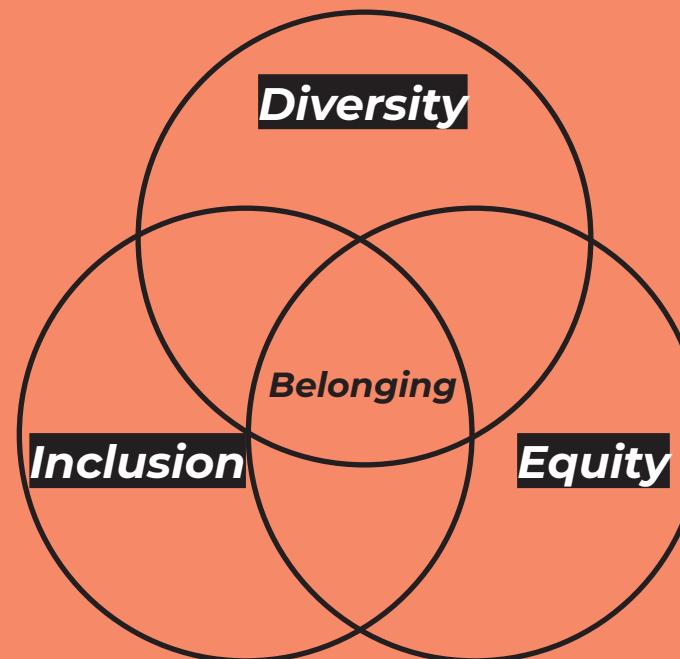
(the starting point)

(DEI), a conceptual framework of three concepts that have been increasingly applied to social issues in recent years and are highly relevant in our progressively interconnected and interdependent global society shaped by globalization and technological advancement.

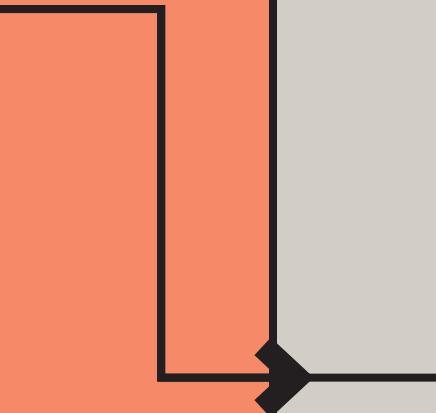
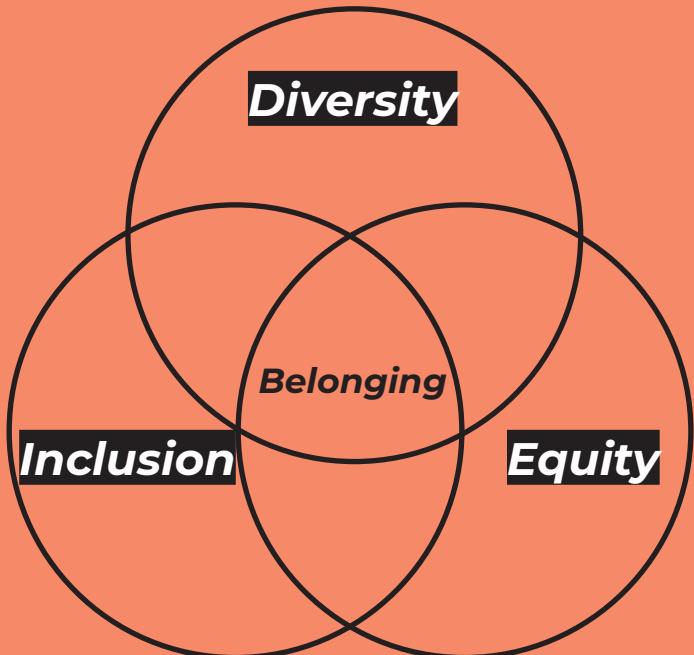
Any of the three interrelated elements missing from the DEI puzzle would result in an incomplete fair “Lived Experience”



DIVERSITY
EQUITY
INCLUSION



DIVERSITY EQUITY INCLUSION



Diversity

is the chorus of voices that make up the conversation.

Equity

is the approach to amplifying different voices fairly

Inclusion

is encouraging, acknowledging, and hearing each and every voice.

(**The**
question is)

Since when and why the concepts of diversity, inclusion, and equity became significant in our lives?

(**The
question is**)

Since when and why the concepts of diversity, inclusion, and equity became significant in our lives?

→ **“GLOBALIZATION”**

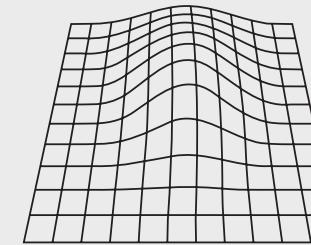
4 waves of globalization

- Globalization refers to an increase in “Globalism,” a state of the world involving networks of interdependence at multicontinental distances*
- A significant aspect of this process is the advent of technology and the communications revolution*
- Has created opportunities to overcome barriers in business and economic growth*
- Increased the gaps between the rich and the poor, between the different cultures, belief systems and value systems*

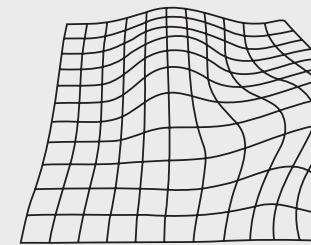
References:

(Vanham, 2019; Northrup, 2009, Arnett, 2002)

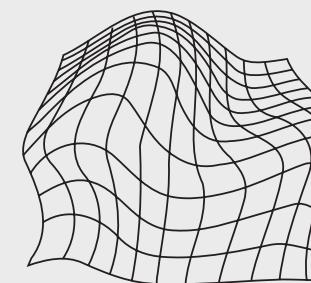
1st wave



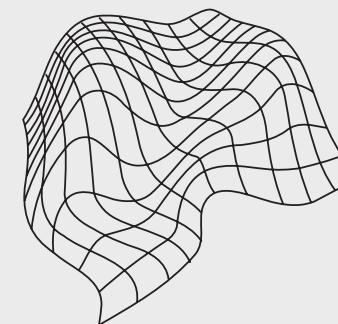
2nd wave



3rd wave



4th wave



Globalization 1.0: 19th century until 1914

- The era of the 1st Industrial Revolution*
- Long-distance communication tools*
- Steam and coal transport engineering*
- Mass production and textile manufacturing*

Globalization 2.0: 1945-1989

- Along with the 2nd Industrial Revolution*
- Regulating global relations (UN, IAEA, IMF, etc.)*
- Jet planes, television, communication satellite*

Globalization 3.0: 1989-2000

- The internet or the “worldwide web”*
- Global supply chain & Offshoring*
- PC, cellphones, microcontrollers*

Globalization 4.0: Present

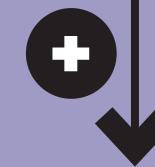
- Megatrend of the 4th Industrial Revolution,*
- Focused on mass customization & service sector*
- Convergence of Physical and Digital*
- 5G, AI, AR, VR, Big Data, Blockchain, IoT*



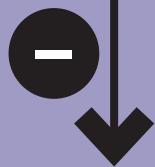
*the key findings
about the impacts of*
“GLOBALIZATION”



**Economic and
industrial growth,
technological
advancement**



**brought goods,
services, ideas,
languages,
information, and
commodities
together**



**problems of
inequality,
marginalization,
Oppression,
inequity**

- *the gains are unevenly distributed, both between and within regions*
- *the importance of acknowledging and promoting Diversity, Equity, and Inclusion for creating a more tolerant and fair society*

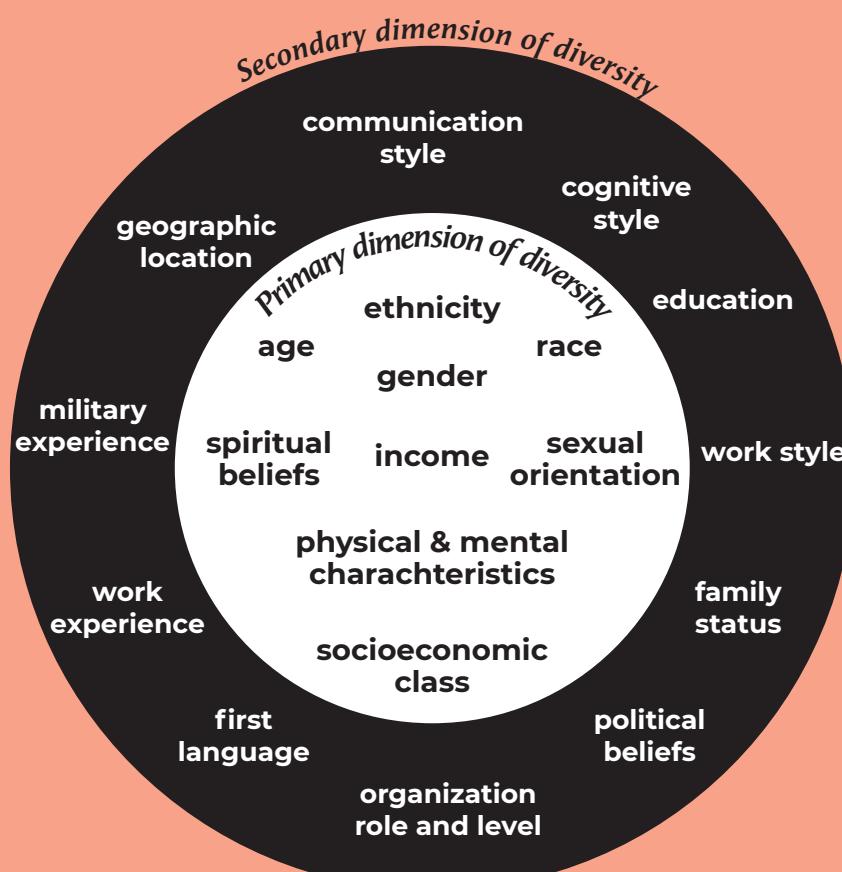
DEI IN THE FASHION SYSTEM



**as an industry that
has been significantly
affected by globalization
throughout the history**

historically lacks diversity,
equity, inclusion





Diversity Wheel
adopted from
(Loden, 1996)

how fashion system is
performing in terms of DEI

(derived from Loden's Diversity wheel)

Consumer-facing perspective

(product & media)

- **SIZE**
- **PHYSICAL & MENTAL
DISABILITY/CHARACTERISTICS**
- **ETHNICITY**
- **GENDER EXPRESSION**
- **AGE**
- **RELIGION**

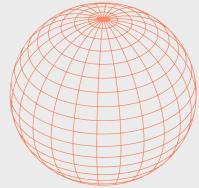
Non-consumer- facing perspective

(organizational & systematic)

- **WORKPLACE OPPORTUNITY
AND ACCESS**
- **DECISION MAKING**
- **C-SUITE LEVEL**
- **INSIDER-OUTSIDER
DYNAMICS**
- **COMPENSATION**



The relevance of DEI culture and fashion system in the current digital age?



- **globalization 4.0 is based on the convergence between physical and digital environments**



- **The covid-19 pandemic accelerated the adoption of new digital tools among both societies and industries**
- **Fashion Industry is no exception**



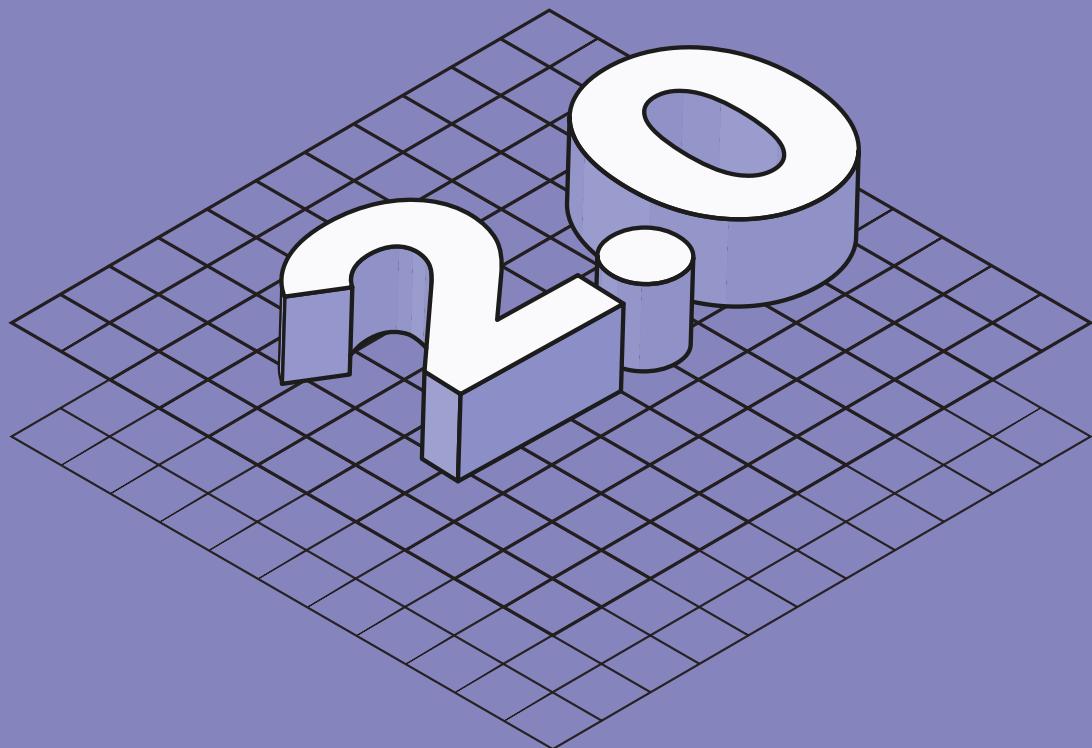
- **Increasing popularity of social networks & user-generated contents**
- **Increasing access & awareness**
- **Emergence of new logics & new value systems especially in fashion system**



- **The emergence of new digital worlds and virtual realms**
- **Digital socializing in Social virtual worlds**
- **Democratizing and eliminating geographical and social barriers through immersive experiences**

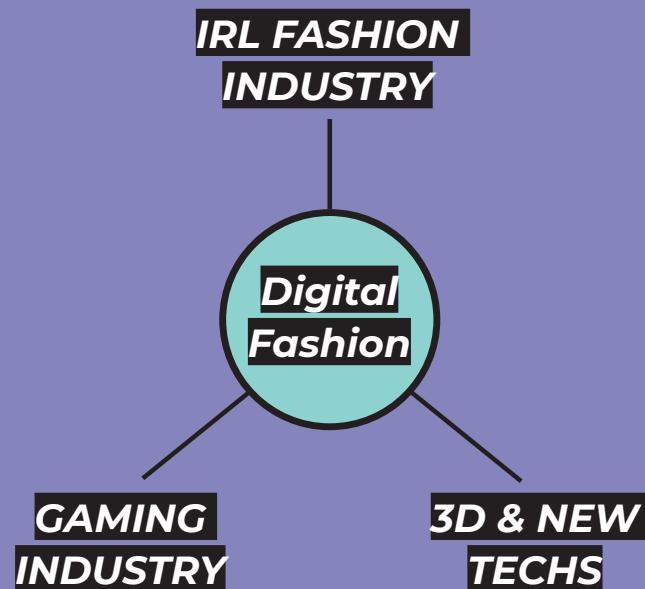
PART 2

THE DIGITAL FASHION WORLD



DIGITAL FASHION

- is both a processual tool to assist design process & an non-processual tool creating a **community-based subculture in the fashion system**
- accelerated by the COVID-19 pandemic become a subculture situated at the intersection between **digital socializing, fashion, and mixed reality**



References:

(Särmäkari, 2021; Makryniotis, 2018)



EVOLUTION & MILSTONES

FINAL FANTASY- 1987

Game series, started with pixelated warriors wearing trite outfits, Collab. with Prada (2012), Louis Vuitton (2016)



THE SIMS- 2000

Game series significantly engaging female players, Collab. with H&M (2007), Diesel (2012), Moschino (2019), Gucci (2020)



SECOND LIFE- 2003

MMO game & social virtual world, user-created world, Giorgio Armani opened a digital-only store & his avatar interviewed with media in the game

NEURO STUDIO- 2014

Creative agency using digital fashion aiming sustainability, world's first-ever digital collection



ATACAC- 2016

Fashion company, purveyor of digital and made-to-order genderless creations, virtual fitting, open-source & decentralized sharing garment 3D files and patterns online

EVOLUTION & MILSTONES

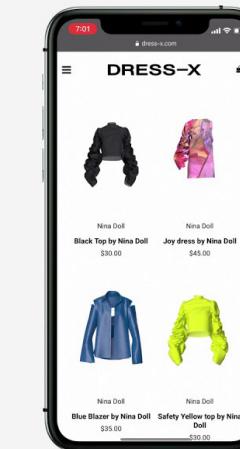
LILMIQUELA- 2016

Miquela Sousa, the first CGI Fashion influencer, collaborated with Chanel, Supreme, Vetements, Vans, etc., and advocating for social justice



FORTNITE- 2017

One of the most popular online video game, purchasable character accessories and costumes known as skins (an intermediary step toward virtualization and ownership), collab. with Nike, Balenciaga, etc.



CARLINGS- 2018

Retail brand released 1st digital-only collection “Neo-Ex” aiming sustainability, modelled on images of the buyer, introduced the 1st AR graphic t-shirt called the “Last Statement T-Shirt.”

THE FABRICANT- 2018

The 1st digital-only fashion house, released & auctioned their digital only dress (the Iridescence) in cryptocurrency worth 9500 dollars

DRESSX- 2020

The most prominent digital fashion store & marketplace, “Don’t shop less, shop digital fashion” is the company’s motto

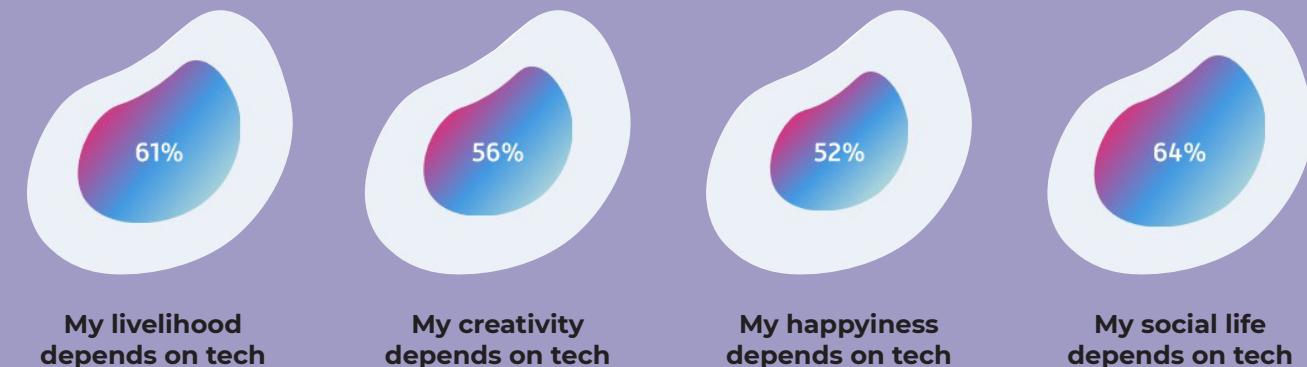
GOING MAINSTREAM

Why & how digital fashion is gradually going mainstream:

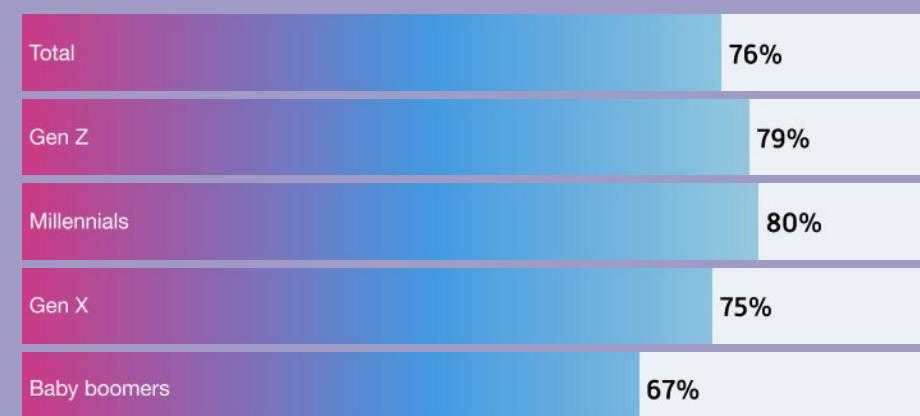
1. **Tech-celebration**

- Increasing consumers' reliance on tech
- Gen Y, Gen Z, Gen Alpha are tech-savvy digital natives
- 76% of global consumers say their everyday lives and activities depend on technology
- businesses rushing to build tech driven 360-degree digital experiences
- Mixed realities are being increasingly integrated into the fashion system

People depend on tech in every aspect of their lives:



My everyday life & activities depend on tech:



References:

Wunderman Thompson Intelligence, 2021

GOING MAINSTREAM

Why & how digital fashion is gradually going mainstream:

2. Living in metaverse

- **Beyond gaming:** transforming from singular game environments into social spaces and massive global venues
- **Borderless virtual community:** MMO games are becoming immersive virtual communities
- **Extension of Self:** Avatars, digital identity, authentic self-expression
- **The creativity catalyst:** from passive consumption to active creation, beyond RL limits
- **Interoperable:** integration of numerous virtual worlds

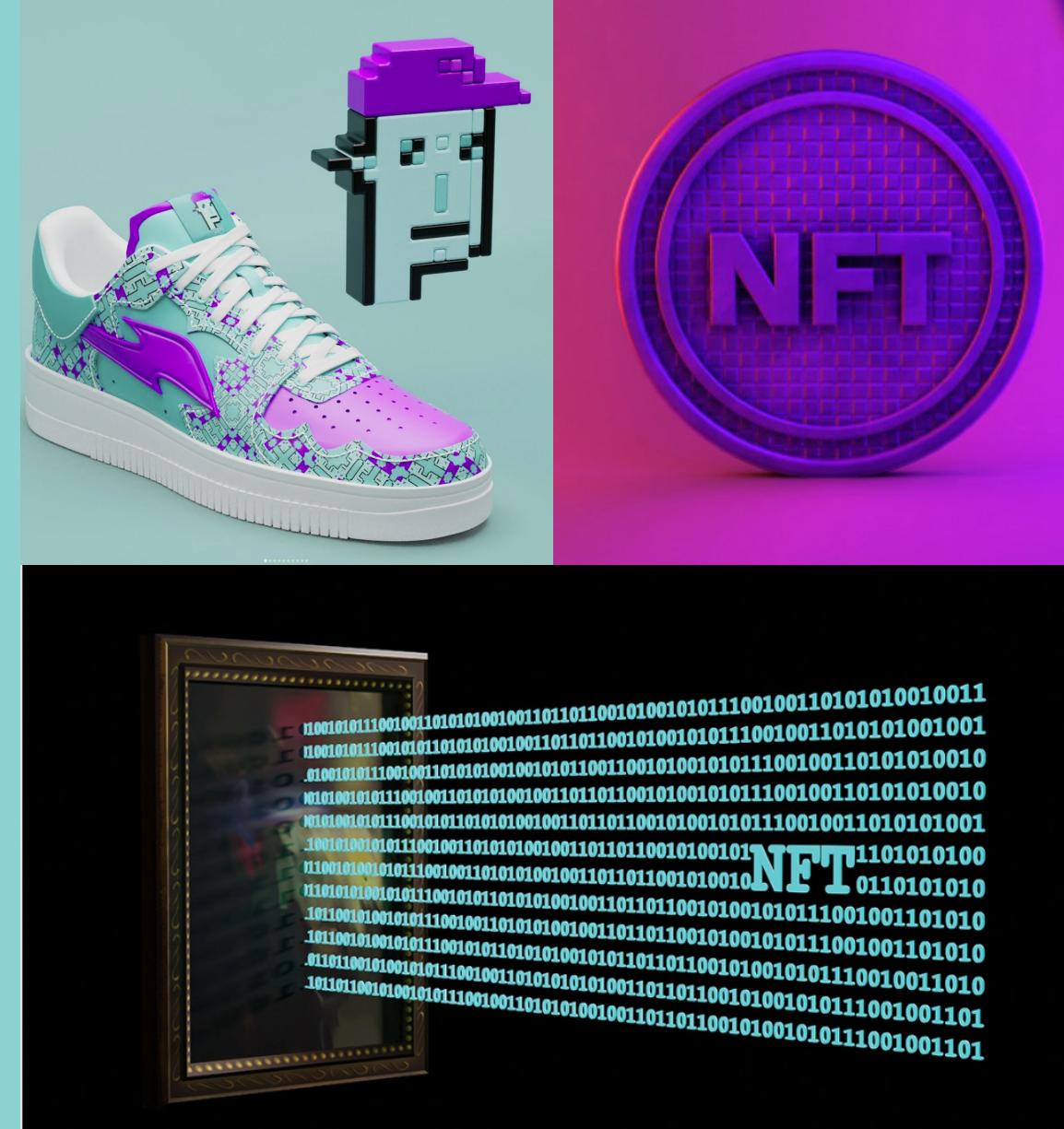


GOING MAINSTREAM

Why & how digital fashion is gradually going mainstream:

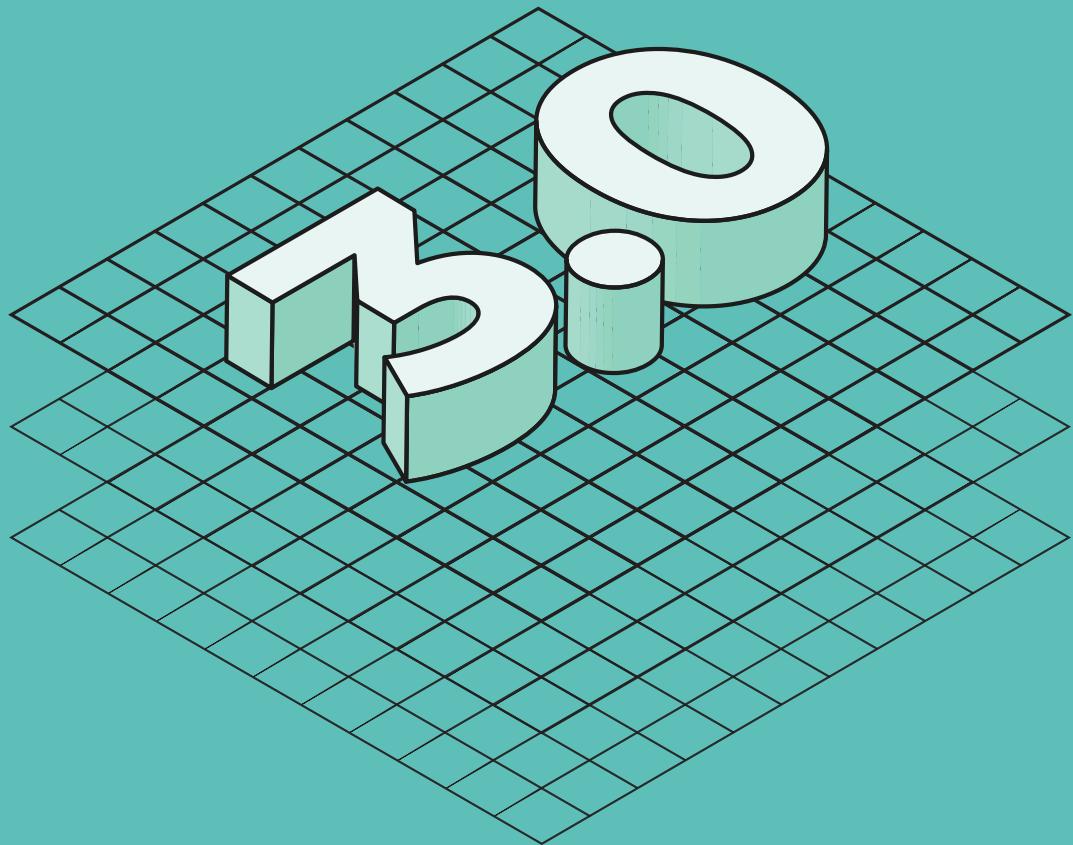
3. web3

- **Decentralized:** P2P blockchain-powered networks
- **Permissionless and Trustless:** no need to a trusted intermediary or a governing body
- **Self-sovereign:** owning control over your time and information through digital wallets
- **Open-source:** Distributed databases, conferring control, ownership, and responsibility over one's digital assets
- **Identity:** more self-designed & authentic
- **New virtual possessions and NFTs**



PART 3

DEI CULTURE IN DIGITAL FASHION



CASE STUDIES

Case studies

Case studies analysis table

DEI drivers/barriers in digital fashion

The Purpose of this multiple-case study

- According to many literatures, the gaming industry as the precedent of digital fashion has experienced a lack of diversity historically (mainly in avatars and skins) that has negatively impacted the entire gaming community. On the other hand, we thoroughly studied the lack of DEI in IRL fashion system and the need for adoption of DEI culture
- This analysis tries to identify the nature of this contemporary phenomenon by analyzing the most prominent existing examples, while also decoding the spirit of inclusion, diversity celebration, and equity linked with each case

Case studies:

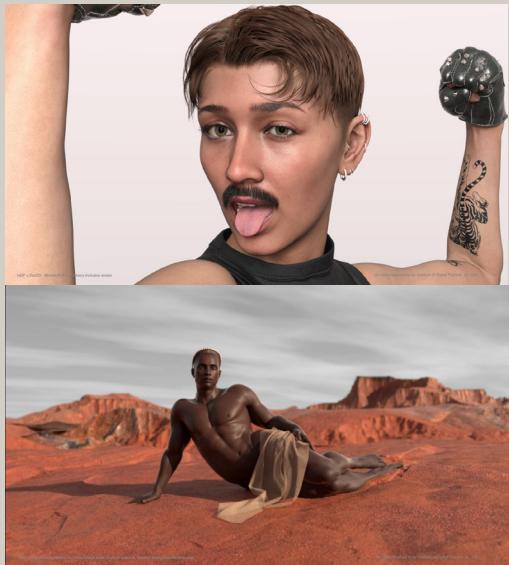
- **1. IoDF**
- **2. Daz 3D**
- **3. GCDS**
- **4. DressX**

- **5. The Fabricant**
- **6. The Diigitals & HUM.AI.N**
- **7. Digi-Gxl**
- **8. Digitalax**

CASE STUDIES

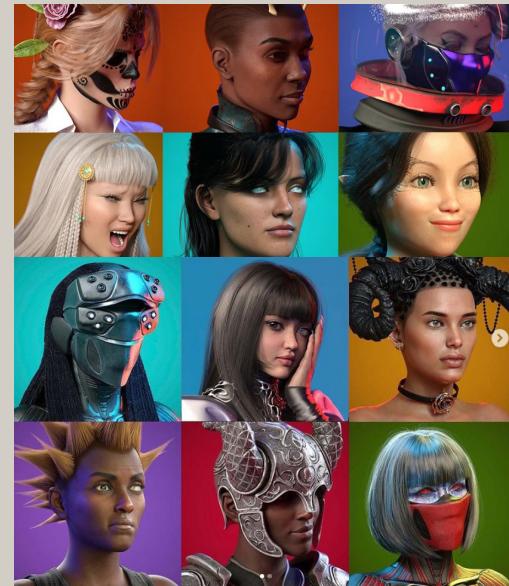
1. IoDF

Providing immersive digital solutions and innovations with the goal of promoting a more inclusive, sustainable, and diverse IRL x URL reality



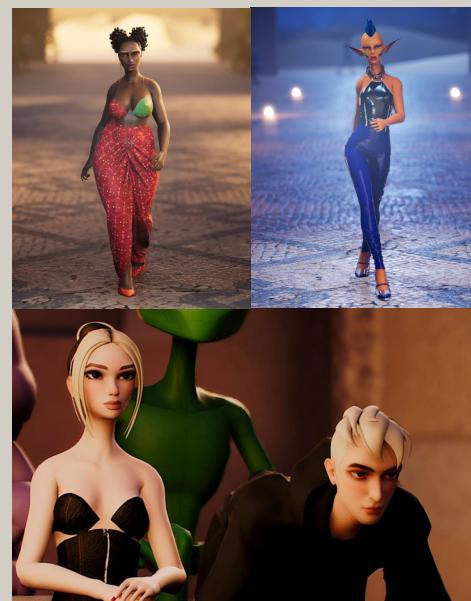
2. Daz 3D

3D content and software company specializing in 3D human models, in 2022 created 8,888 "Non-Fungible People" promoting diversity in avatars



3. GCDS

Italian streetwear brand presented its collection in a video for SS21 Milan fashion week featuring a completely CGI world



4. DressX

Digital fashion marketplace provides both 3D designers and IRL fashion brands a platform to sell and distribute digital clothing



CASE STUDIES

5. The Fabricant

Digital-only fashion house, believes in an open-source, decentralized, and transparent community based fashion



6. The Diigitals & HUM.AI.N

Two creative agencies specialized in virtual influencers and models, both focusing on the diversity and representation among CGI models & influencers



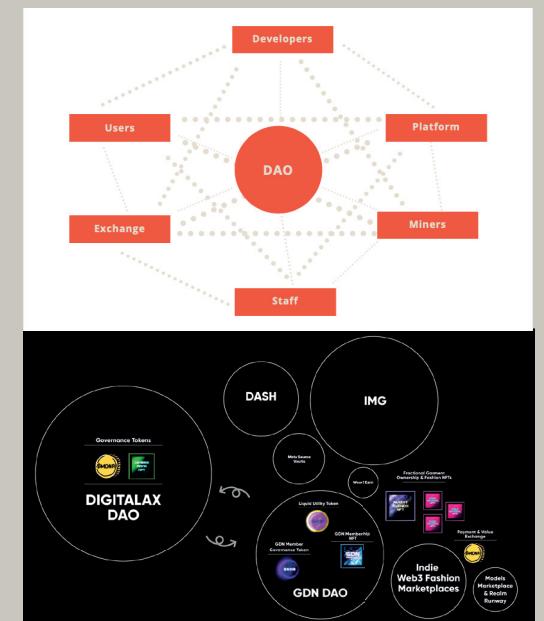
7. Digi-GxL

a network, a global community of womxn, trans folk, intersex, and non-binary people working in digital media, rooted in 3D design and animation



8. Digitalax

1st Digital-Only Fashion Auction Exchange Platform and Open Source Digital Fashion Toolkit, GDN DAO, DASH 3D file format, Pricing Frameworks



CASE STUDIES ANALYSIS

*Analysis of case studies
for finding DEI drivers*

in digital fashion

	<i>IoDF</i>	<i>Daz 3D</i>	<i>GCDS</i>	<i>DRESSX</i>	<i>The Fabricant</i>	<i>Digi-Gxl</i>	<i>The Diigitals & HUM.AI.N</i>	<i>Digitalax</i>
DIVERSITY								
Consumer-facing representation & advocacy	★	★	★	★	★	★	★	★
Non-consumer-facing representation & advocacy	★					★		★
Customization & self-expression		★		★	★			
EQUITY								
Decentralized	★			★	★	★		★
Democratized & accessible	★	★	★	★	★	★		★
Open-source					★	★		★
INCLUSION								
Co-creation		★	★	★	★			
Creative community	★			★	★	★		★

DEI DRIVERS IN DIGITAL FASHION

1. ***Authentic representation, limitless self-expression, & true personalization***
2. ***Open-source, democratized, & decentralized***
3. ***Creative community & co-creation***



DEI BARRIERS IN DIGITAL FASHION

1.

1) The grey area of tech

Tech area is imbalanced in terms of gender, race and ability

2.

2) The grey area of the Metaverse

Biases in the RL can be transmitted into the metaverse

3.

3) Accessibility limitations

High cost of VR headsets, being relied on visual elements excludes blind people, movements barriers for disabled people



CONCLUSION

- *The redemption of Diversity, Equity, and Inclusion might not be only in the hands of the digital fashion and constant awarness and allyship is crusial, although it can be fostered to an unprecedeted extent in digital realms and through digital fashion.*
- *The bad news is that digital fashion is not going to replace IRL fashion since the humankind has a societal life and need coverage! So we cannot ignore the DEI issues of IRL fashion and hope that digital fashion will redeem all what has gone wrong historically in the fashion system*
- *The good news is that digital fashion is creating new realms and forms of self-expression and socializing and can extremely open up space for marginalized voices within societies to contribute and be included and celebrate each and every difference without compromising diversity and equity*

Design-driven actions to foster DEI in digital fashion

- ***1. Join and contribute to the GDNs, DAOs, and digital design networks***
- ***2. Collaborations between IRL brands and digital fashion designers and DAOs***
- ***3. Sharing open design resources and materials, and assets***
- ***4. Allyship and advocacy for DEI culture in each & every phase of fashion system***



Thank you!

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