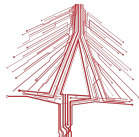
WHAT THE TECH?

Final Project Presentations

[DATE]

THANK YOU FOR JOINING US!
WE WILL BEGIN SHORTLY!

Please mute your microphones in the meantime.

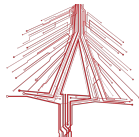


What The Tech? Final Project Presentations

Agenda:

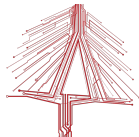
- Introductory remarks:
- Background:
- Presentations
  - Seven minutes each
  - Three minutes for Q&A

- **Please mute your microphone if joining remotely**



Introductory Remarks #1

Project Backgrounds #2



Larger Project Background

- Made possible by Public Interest Technology University Network (PIT-UN)
- Overarching vision: to develop a framework for community- and youth-led public interest AI policy in Boston.
- This is done through engagement initiatives by BARI and our project partners
  - This is where *WTT* fits in

PUBLIC INTEREST TECHNOLOGY UNIVERSITY NETWORK

TGH tech goes home

Boston Area Research Initiative

BOSTON Public Schools

CITY OF BOSTON

INNOVATION AND TECHNOLOGY

About *What The Tech*!

- BARI's after-school youth program focused on Artificial Intelligence
  - Started in late April
  - Name comes from two places:
    - Honors undergrad class taught by Dr. Kim Lucas
    - Educational video series created by the Mayor's Office of New Urban Mechanics

About *What The Tech*!

- Focuses: the basics, the different types, the uses, and the ethics of AI
- Methods included
  - Outdoor activities
  - Guest lectures
  - Field trip to the Museum of Science
  - Student contributions

About *What The Tech*!

- Student contributions:
  - “Media agnostic” weekly written reflection assignments
  - In-class activities
  - “Mock legislature” sessions with Marvin Venay, our *TGH* guest
- All leading up to today!

About *What The Tech*!

Final Project

- Group assignment
  - Break into groups based on community
  - Pick use case that calls for AI
  - Identify ethical issues
- Final projects are also“media agnostic”
  - Accompanied by written summary

How Today Will Work

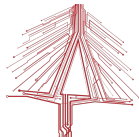
The Details

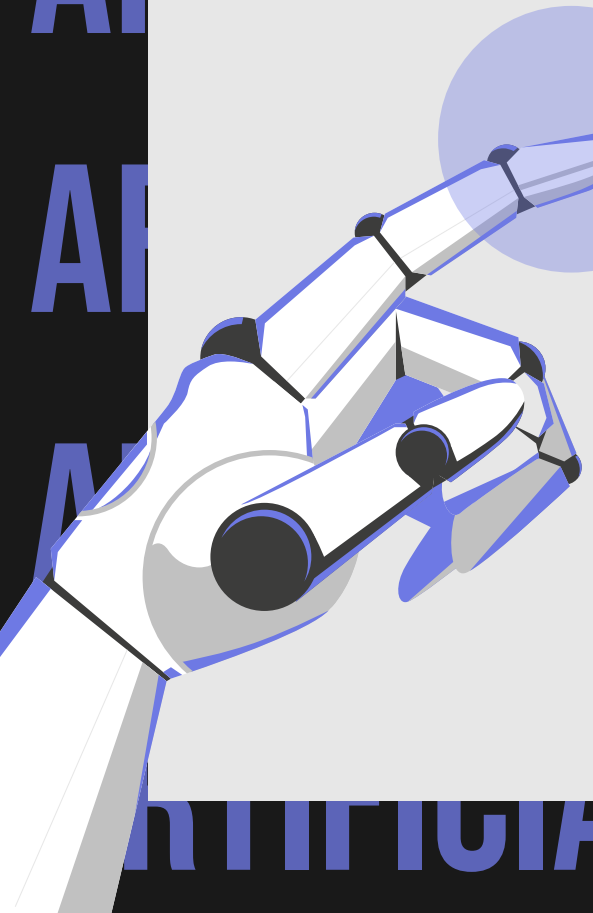
- Presentations
  - Seven minutes to present
  - Three minutes of audience Q&A
  - If you are watching remotely, please put question in the chat

The Order

1.

Please welcome William Liang and Jacky Li!





WHAT THE TECH FINAL PROJECT

Generative AI

William Liang and Jacky Li

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ARTIFICIAL INTELLIGENCE (AI)

01.

WHAT IS AI?

More than just ChatGPT?


天下為公
興盛
HING SHING
Hot Pot Buffet
肥牛火鍋城
NEAT OI


SOUTH COVE PLAZA EAST
南灣東樓


頂好
DING HO FAST FOOD
TAKE OUT
快餐


南北和
Dumpling Cafe
南北小炒 游水海鮮 南翔小包 經濟套餐


溫莎餅屋
617.350.0210
MAY'S CAKE HOUSE
223A
TEA
COFFEE
BAKERY


Rent
Ayana Sushi
日本料理
Dumpling King
FRIENDSHIP BBQ


配膳ロボット
ベラボット
BellaBot
BellaBotベラボットが料理を運ぶニャ!


مرحبا
привет
হ্যালো
안녕
Bonjour
こんにちは
Hello
Olá
नमस्ते
Ciao
Hola
你好
Guten Tag


THE UNITED STATES OF AMERICA
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WASHINGTON, D.C.
SERIES 2013
DOLLAR
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THANKS

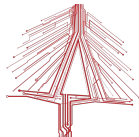
What The Tech Final Project

AI in Boston's Chinatown

Jacky Li and William Liang

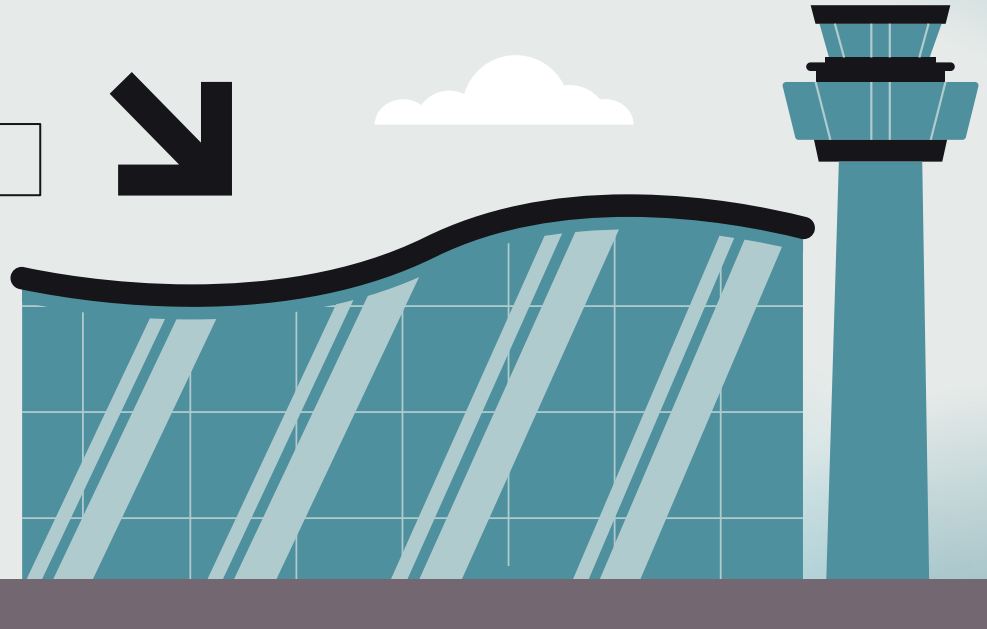
Questions for William & Jacky?

Next: Jack Sawyers & Lucy Osowiecki



AI in the Airport

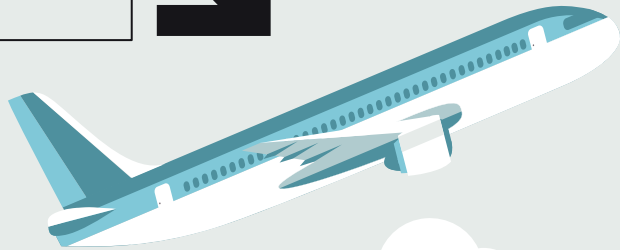
How Can It Speed Up Going Through The Airport?



Problem Case?

- So many people are part of the traveling community
  - enjoyment/vacation, work, visiting family
- Often we show up hours in advance to ensure we make our flight and it is always very stressful
  - this shouldn't have to be the case!
    - We should be able to relax on the airport just as any other form of transportation

What Can AI Do



- AI can assist in reducing the amount of times that several different processes take in the airport
  - Terminally resulting in a shorter overall airport experience
- We'll dive into how it can speed up these processes:
  - Baggage Checking
  - Security/Identification Checkpoints
  - Delays/Cancellations

Maintenance

- Predictive AI
- AI could predict when certain parts need to be replaced or undergo maintenance
- Foresight can allow airlines to plan ahead in aircraft maintenance

Hopefully would mean less delays and cancellations (less time spent in the airport!)

Security / Identification Checkpoints

- AI can be used in Biometric scanners at the airport
  - This **is** actually employed at some places in Logan airport
- Allows a much easier and quicker way for identification at security checkpoints
- Speeds up boarding process (faster than manual passport checks)
- Scan carry on luggage at security & search for security risks in passengers

A lot easier, easing stress, and can prevent a buildup of any queues as the machine is faster than a human

Baggage

- We believe AI can be used with robotics to help automate baggage checking further
- Print baggage labels (biometrics for ID!)
- AI & Robotics responsible for it
  - Scans label and knows where to send it so it reaches its destination
  - Assists in tracking and routing baggage

Prevent Queues & give a larger piece of mind with a low error rate of the system for losing bags

Ethics.

01

Data Being Saved

- Worries arise about the issue of what airlines might do with people's information in biometric scanners

02

AI Bias

- There are areas in which AI might have bias towards the people it chooses to investigate

03

Loss of Jobs

- WIth the increase of AI in the airport people could lose jobs
- People will lose a lot of the human interaction in the airport

04

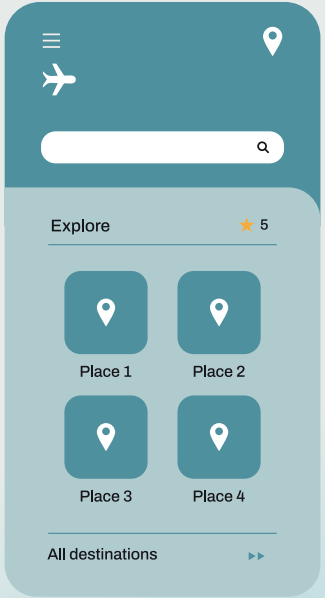
Equal Access

- Could make it more difficult for those not well versed in technology
- Could make the airport more stressful and longer for those passengers

Impact on Boston (Logan Airport)

- People from all around the world use the Logan Airport as well as Bostonian Citizens
- In the Airport the lines can become very long and stressful to get through
  - AI can speed up the checking in and identification processes at Logan and make lines shorter and easier to get through
- Massively assist in preventing delays or cancellations of flights!
  - incredibly helpful
- Could have negative effects for those who do not know technology well
  - Other ethical concerns

What is in Logan Airport now?



- Biometric Scans are actually in place at some checkpoints in Logan (at the gate)
  - Bias has been shown as black and asian people have been found more likely to fail the AI checks
- It is speeding things up at these checkpoints
- Concerns are rising about this bias and the possibility of this technology being used elsewhere in the airport…law enforcement

People’s Concerns

- Concerns may arise with trusting AI with information
  - People trust humans more than machines
- AI isn’t always right
  - AI might have a strong percentage on doing what it’s not supposed to

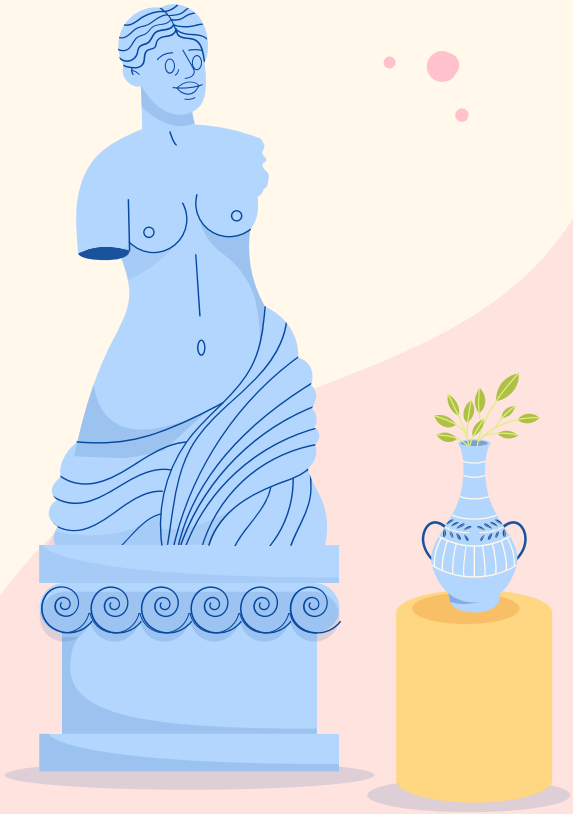
The Skywise Platform

Questions for Jack & Lucy?

Next: Roisin Foley, Nikki Tsui & Sophia Figueria

Generative AI in Art

Sophia Figueira, Nikki Tsui, Roisin Foley



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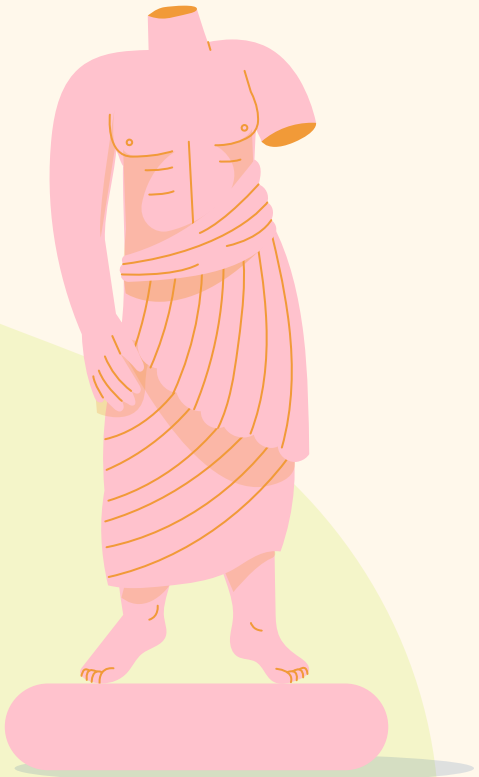


01

What is Generative AI?

Generative AI: What is it?

Generative AI is a type of artificial intelligence that's able to produce content based on prompts. These can include:

- Audios
- Text
- Art

Some examples of generative AI include:

- ChatGPT
- Dalle
- Suno

Why the Art Community?

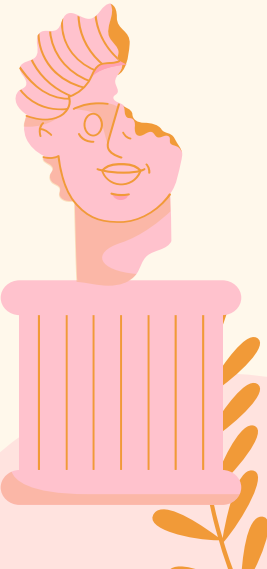
- We are all artists, and art is a large part of our lives
- Art is a big part of Boston, whether it be a college student studying literature to a museum showcasing pieces of modern art
- Art makes a community more lively, welcoming, and colorful

“Generative AI is the most powerful tool for creativity that has ever been created. It has the potential to unleash a new era of human innovation.”

—Elon Musk

How is AI being used in the Art Community?

- Produce digital art, audio, and writing
- Generate inspiration (or references)



Ethical Issues

- Artists spend hours on their art
    - AI can create art in seconds
- Artist are not being credited in AI works
- Artists' art can be used without their consent
- Lack of variety in art

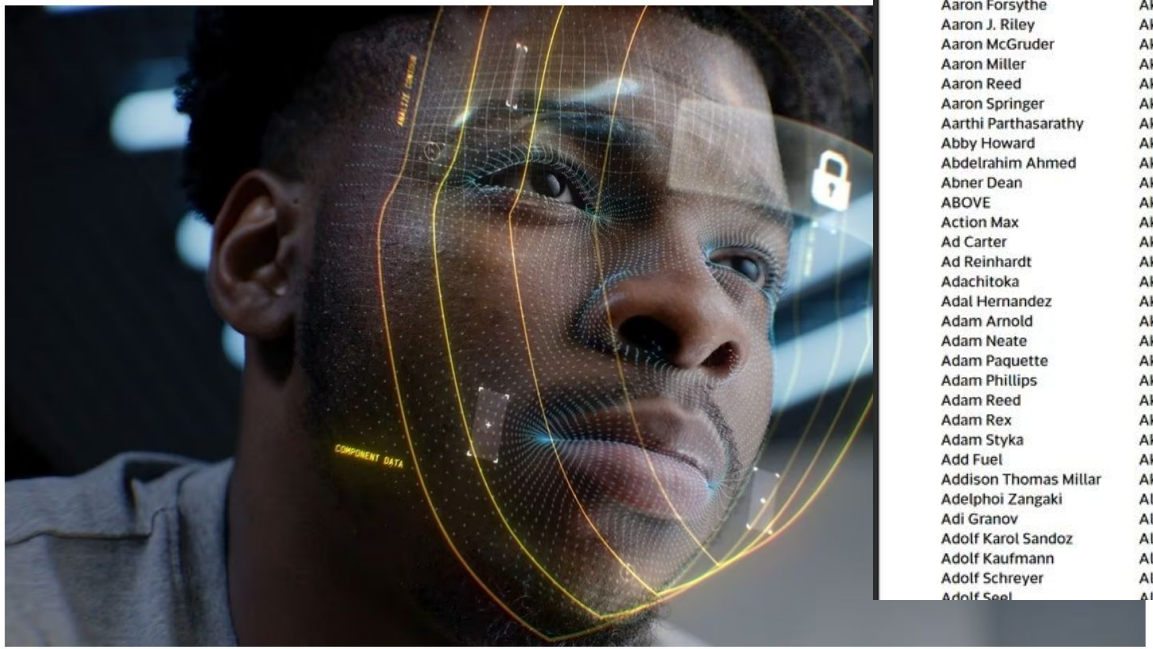
Real Life Examples

- Midjourney and StabilityAI
  - Sued for copyright infringement by artists
  - Artists claim that companies are abusing the anti-SLAPP law

Beware of identity fraud empowered by generative AI

Corporate leaders and school principals alike have recently been imp
leading to scandals involving nonconsensual intimate images, sexual
blackmail, and financial scams.

By **Joan Donovan** Updated June 11, 2024, 2:24 p.m.



FRAMESTOCK/ADOBE

108 – graffiti
1292 Advanced Programmable Video System
3DO Interactive Multiplayer
3Steps
909 Art
A1one
Aaron Boyd
Aaron Forsythe
Aaron J. Riley
Aaron McGruder
Aaron Miller
Aaron Reed
Aaron Springer
Aarthi Parthasarathy
Abby Howard
Abdelrahim Ahmed
Abner Dean
ABOVE
Action Max
Ad Carter
Ad Reinhardt
Adachitoka
Adal Hernandez
Adam Arnold
Adam Neate
Adam Paquette
Adam Phillips
Adam Reed
Adam Rex
Adam Styka
Add Fuel
Addison Thomas Millar
Adelphoi Zangaki
Adi Granov
Adolf Karol Sandoz
Adolf Kaufmann
Adolf Schreyer
Adolf Seel

Ai Desheng
Ai Kijima
Ai Morinaga
Ai Yazawa
Ainslie Henderson
Aisha Galimbaeva
Aizu Yaichi
Ajit Ninan
Akane Ogura
Akay – graffiti
Akemi Matsunae
Akemi Takada
Akihiko Yamashita
Akihiro Ito
Akihiro Yamada
Akihisa Ikeda
Akihito Yoshitomi
Akiko Hatsu
Akiko Higashimura
Akimi Yoshida
Akimine Kamijyo
Akinobu Uraka
Akio Chiba
Akio Watanabe
Akira Amano
Akira Furuya
Akira Himekawa
Akira Ito
Akira Kanbe
Akira Kojima
Akira Narita
Akira Oze
Akira Suzuki
Akira Toriyama
Akira Yasuda
Al Capp
Al Davidson
Al Gordon
Al Jaffee
Alaa Awad
Alain Resnais

Alan Stuart Paterson
Alayna Danner
AlbaBG
Albert Bierstadt
Albert Gleizes
Albert Goupil
Albert Kotin
Albert Louis Aublet
Albert Maignan
Albert Pinkham Ryder
Albert Uderzo
Alberto Giacometti
Alberto Pasini
Alberto Saichann
Aldo Capitanio
Alec Monopoly
Alejandro Jodorowsky
Alejandro Mirabal
Aleksandr Nikolayev
Aleksandr Petrov
Aleksandra Ekster
Aleksi Briclot
Alessandra Pisano
Alex Akerbladh
Alex Anderson
Alex Binnie
Alex Brock
Alex Hallatt
Alex Hirsch
Alex Horley-Orlandelli
Alex Konstad
Alex Martinez
Alex Negrea
Alex Norris
Alex Schomburg
Alex Stone
Alex Toth
Alex Vallauri
Alex Williams
Alex Woolfson
Alexander Archipenko

Alexandre Alexeieff
Alexandre Bida
Alexandre Bloch
Alexandre Cabanel
Alexandre Chaudret
Alexandre Jacovleff
Alexandre René Veron
Alexandre Roubtzoff
Alexei Issupov
Alexis A. Gilliland
Alexis Ziritt
Alfons Mucha
Alfred Chateau
Alfred de Dreux
Alfred Dehodencq
Alfred Leslie
Alfredo Luxoro
Alice Aycock
Alice Schille
Alicia Austin
Alicia Mickes
Alicja Uzarowska
Alisa Lee
Alison Luhrs
Alison Snowden
Alix Branwyn
Allan Kaprow
Allen Douglas
Allen Williams
Alli Steele
Allison Carl
Alois Hans Schram
Aloysius O'Kelly
Alton Lawson
Alton Tobey
Alvy Ray Smith
Amadee J. Van Beuren
Amano Akira
Amayagido
Amedeo Modigliani
Amedeo Preziosi

Preventatives

- Opting out of AI training
- Websites offer a “cloaking” technique (Glaze or Nightshade)
- Watermarking

Regulations

- There are no existing laws or regulations surrounding AI
  - The USCO stated due to AI's lacks human involvement, it is not eligible for copyright protection
- We feel that laws should be set in place to protect artists
  - Their pieces are being used without their consent and they're not getting paid for their livelihoods

Works Cited

The New Yorker “Is A.I. Stealing from Artists?” https://www.newyorker.com/culture/infinite-scroll/is-ai-art-stealing-from-artists

White & Case “AI Watch: Global Regulatory Tracker- United States” https://www.whitecase.com/insight-our-thinking/ai-watch-global-regulatory-tracker-united-states#:~:text=Currently%2C%20there%20is%20no%20comprehensive,AI%20albeit%20with%20limited%20application.

“Exclusive & inspiring”

Thanks

Does anyone have any questions?

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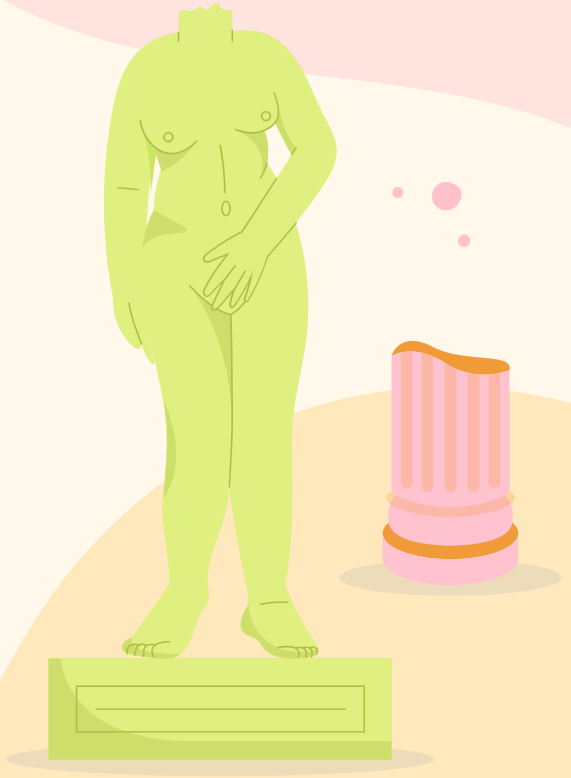


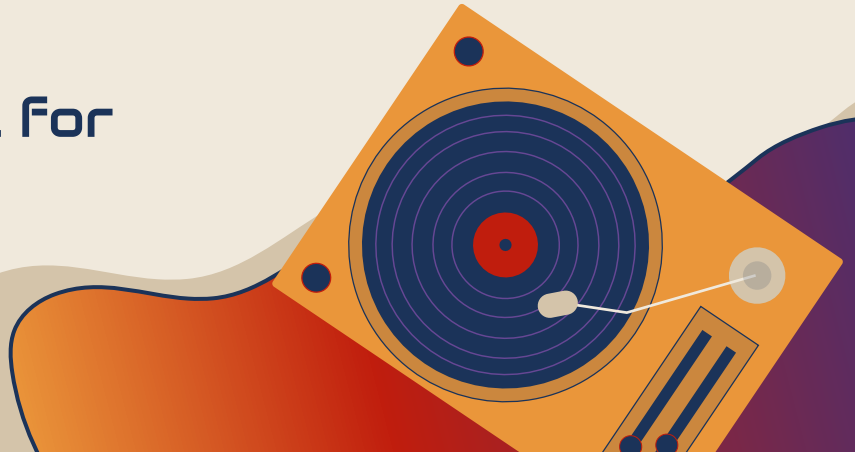
Questions for Roisin, Nikki & Sophia?

Next: Eamon Innes & Gideon Neave

AI and Music - Mixing and Mastering

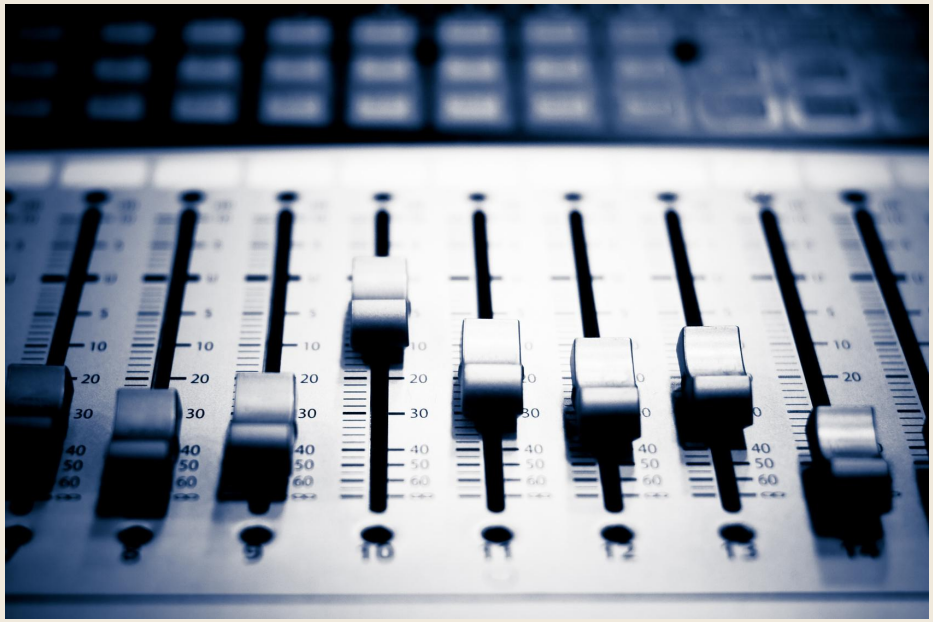
Eamon Innes & Gideon Neave

Contents



What is mixing and mastering?

- Processes at the end of the creation of a song or project to clean up the sound and make the song more balanced.
- **Mixing** - Arranging the instruments within a song to create a more balanced and cohesive sound.
- **Mastering** - The final touches on a work of music to polish the mix and prepare it for distribution.
- Mixing is more focused on the individual parts of the song and their relationships, while mastering looks at the sound of the song as a whole.



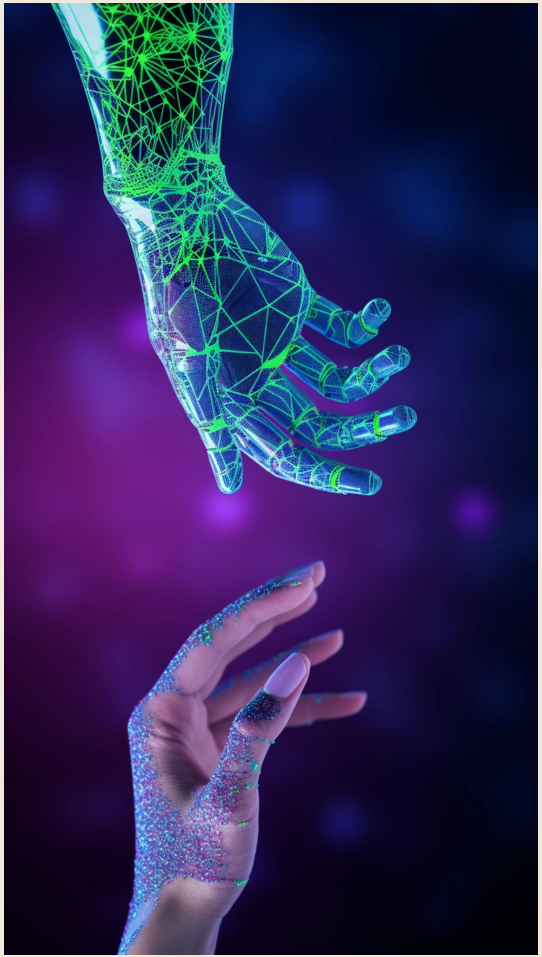
What is the problem?

- Advanced Skill Required
  - Learning/Mastering these skills takes time and hard work.
- Limited Resources
  - Requires equipment that artists might not have.
- Time Constraints
  - Long processes, time invested in mixing/mastering rather than song-writing.
- Financial Limitation
  - Mastering engineers very expensive.

“$200 – $1,000 per song”

How can AI help?

- Generative AI tools could be used to mix and master songs for artists without having to do it themselves or pay someone else to do it for them.
    - Even at a primitive level AI tools are still able to assist with the mixing/mastering process.
- Saves thousands of dollars for the artist, AIs would cost relatively very little.
- Time lost in the mixing and mastering process could be used for other purposes.
- Extensive training would no longer be required for basic mixing and mastering.
- The only equipment required is the computer used by the artist to create the song.
- Digital divide is reduced.



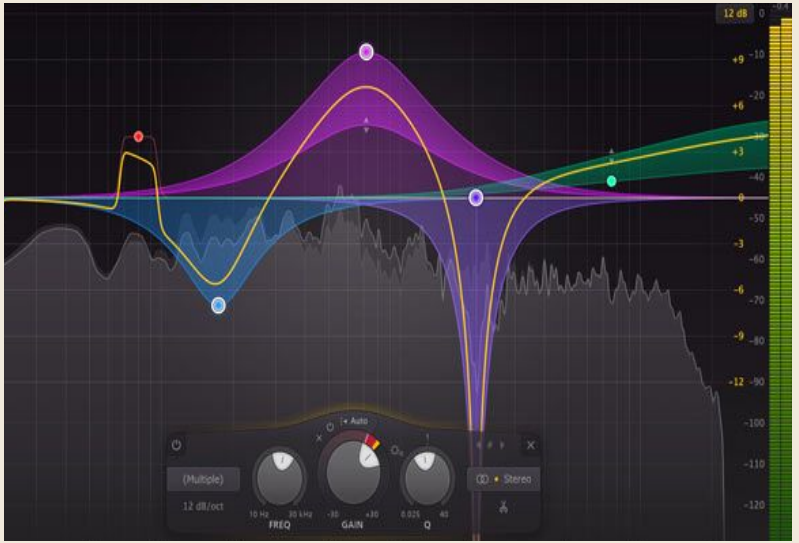
What do musicians think?

“However, when it comes to these more technical parts... I think using [AI] as a tool could be useful and helpful. The questions the degree to which we become mastered by the tools or are using the tools” - Schuyler Kitchin, local musician

“I feel that the use of AI for mixing is potentially problematic as it does not necessarily account for the artistic vision that often goes into mixing a song. [....] Using AI for mastering seems like more of a possibility [...] but these services still have yet to produce high-quality outcomes on a consistent basis. [...] I’m not sure it the whole mixing and mastering process will ever be 100% handed off to AI to perform on it’s own. I think AI will just become another tool in the toolbox.” - Andrew Innes, local musician

Drawbacks and Ethical Dilemmas

- The Suppression of Creativity or Artistic Presence
  - AI would likely not maintain the same level of artistic freedom in the mixing/mastering process.
- Possibility of Errors in Sampling or Sound Quality
  - AI is not perfect, and imperfections would still exist, especially at early stages.
- Skilled Engineers may lose their jobs due to AI competition.
- Privacy issues with AI reusing artists' work on other projects or artists losing data, especially with training data

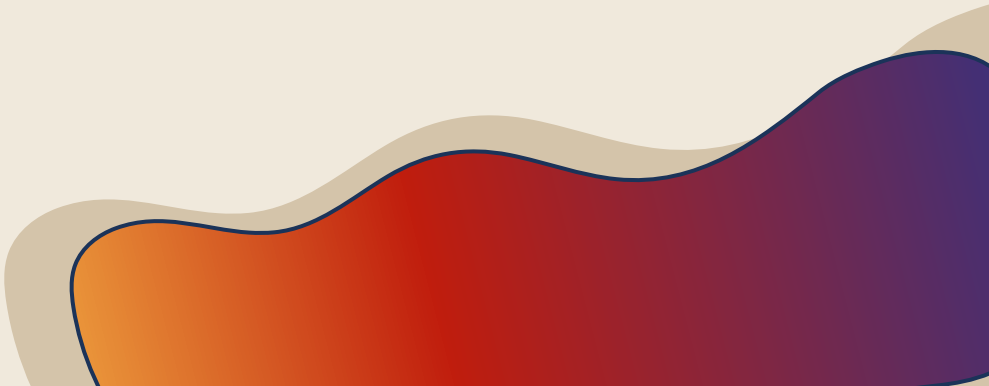


Potential For Boston

- Vibrant music community in Boston
- Grants and funding for startups and research
- Could be valuable resource for Boston musicians, but particularly students
- By investing in this software and providing it for free to Boston students, it will open doors for them and make it easier for them to invest in their passion
- Partner with community to provide access, build studios in schools

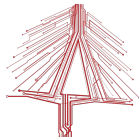
Resources

- https://online.berklee.edu/takenote/mixing-music-what-is-sound-audio-mixing/
- https://www.twine.net/blog/music-production-cost-and-prices/#:~:text=Mixing%20engineers%20can%20charge%20anywhere,%24500%20per%20album%20or%20project.
- https://miloburke.com/blogs/personal-blog/posts/4700730/mastering-isn-t-a-process
- https://www.izotope.com/en/learn/what-is-mastering.html
- https://arstechnica.com/ai/2024/02/mastering-music-is-hard-can-one-click-ai-make-it-easy/



Questions for Eamon & Gideon?

Next: Amira Beriane, Sawsane Salhi, & Jolia Tsan



AI in Longwood Medical Area

Amira Beriane, Sawsane Salhi, Jolia Tsan

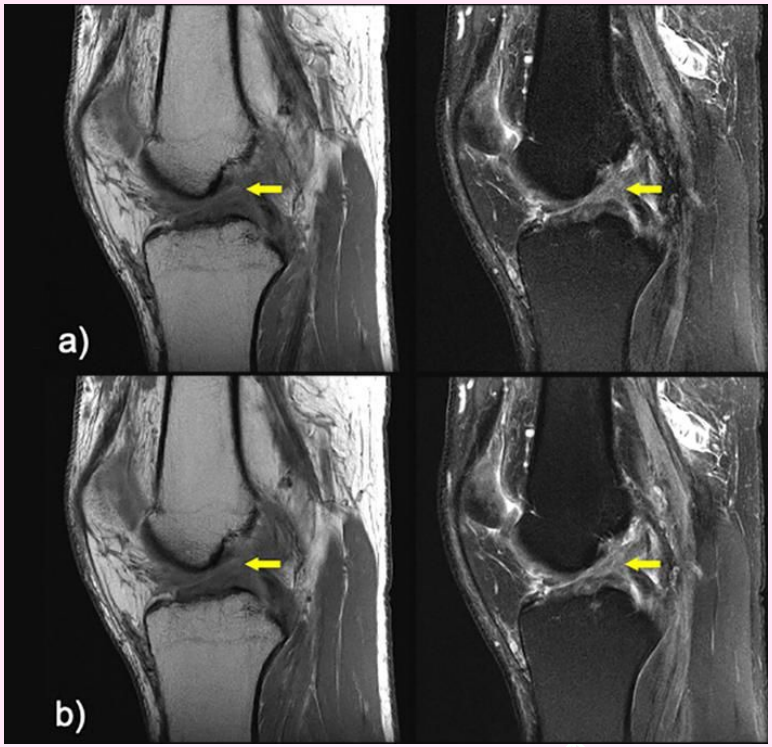
Longwood Medical Area

Traffic in Longwood Medical Area

- Medical employees that are working emergency shifts will be prioritized
  - This will be done through
- What type of AI will be used?
- What are the ethics?

Enhancing Healthcare with AI

Machine learning for X-rays, CT scams, and MRIs



Prototype

https://www.figma.com/proto/dtBWXV4ZvbxmvSEPTFGaua/BUHHS-Prototype?node-id=7-20&starting-point-node-id=7%3A16&t=3VCOx6KuAYxMzEZx-1

Ethical Concerns

-Biases towards POC

“AI in medicine needs to be carefully deployed to counter bias – and not **entrench** it” - Ryan Levi, Dan Gorenstein

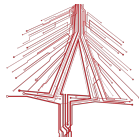
Thank you!

Levi, Ryan, and Dan Gorenstein. “Ai in Medicine Needs to Be Carefully Deployed to Counter Bias – and Not Entrench It.” *NPR*, NPR, Accessed June 2023, www.npr.org/sections/health-shots/2023/06/06/1180314219/artificial-intelligence-racial-bias-health-care.

“About the LMA.” *Longwood Collective*. Accessed 13 June 2024, www.longwoodcollective.org/about/about-the-lma

Questions for Amira, Sawsane, & Jolia?

Next: Brave Arimah



Boston, Gambling, and Artificial Intelligence

Brave Arimah

overview

- Artificial intelligence is
- Generative artificial intelligence is artificial intelligence capable of generating text, images, videos, or other data using generative models, often in response to prompts. Generative AI models learn the patterns and structure of their input training data and then generate new data that has similar characteristics.

How is AI used in gambling?

Generative AI has been used in gambling when it comes to building a strategy to make the most money. People prompt the AI to go and create a budget and plan for how to play at the casino.

Example Strategy:

Blackjack:

- Budget: $400
- Bet size: $10 per hand
- Play with basic strategy and avoid side bets

Craps:

- Budget: $300
- Bet on pass line ($10 per bet) and take odds bets
- Avoid proposition bets

Roulette:

- Budget: $200
- Bet on outside bets ($10-$20 per bet)
- Stick to European roulette if available

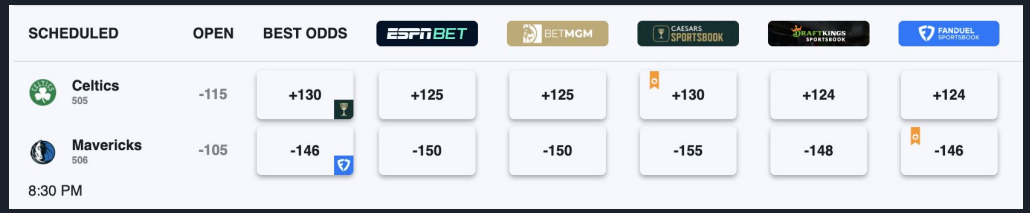
Slots:

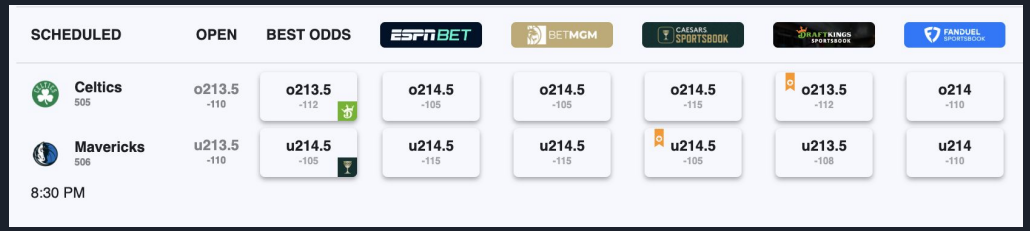
- Budget: $100
- Bet minimum amounts to extend playtime

How is AI being used in gambling? (cotd.)

Sports betting is a very popular form of gambling, especially because there are much better chances for the average guy to win.

AI models can be used to predict the stats of players in a game - a huge boon for those betting, because there's a much more informed chance to win.





Gambling Concerns

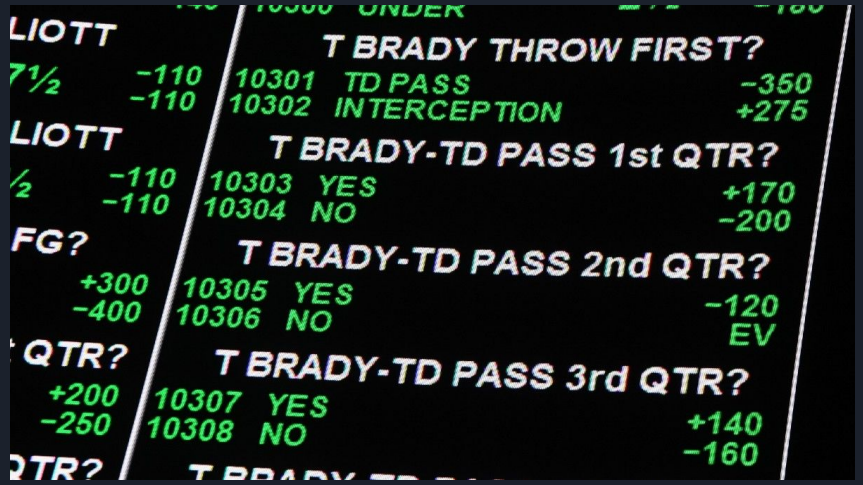
Naturally, lots of issues come baked into gambling. People usually play to win, and winning activates the same high in your brain as cocaine.

Alongside societal objections to gambling, problematic gambling leaves families penniless and heartbroken.

Gambling Concerns, cotd.

While the gambling issues I discussed in the last slide come independent of artificial intelligence, the sports gambling side also has a new issue: the house rigging odds.

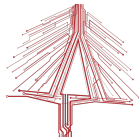
While the average Joe can use AI to predict sports games' outcomes, so can the bookmakers. They can give unfair odds for people and keep money they'd usually lose in their bank accounts.



Thank You!

Any questions? Ask away!

Questions for Brave?



Thank you all for coming!