

AI-POWERED GAMIFICATION FOR THE WEB

COURTNEY YATTEAU



AGENDA

- Gamification Overview
- AI + Gamification
- Demos
- Key Takeaways





RU
RADFORD
UNIVERSITY



Courtney Yatteau

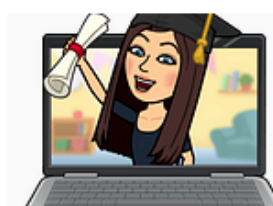
Developer Advocate, Esri



Reflection: My Unconventional Start into Computer Science

As told by a math major.

Sep 19, 2022 52 1



Courtney Yatteau
May 12 '23

AI is a Teacher's New Best Friend 🍎

#ai #teacher #beginners

2 reactions 1 comments

7 min read



WHAT IS GAMIFICATION?



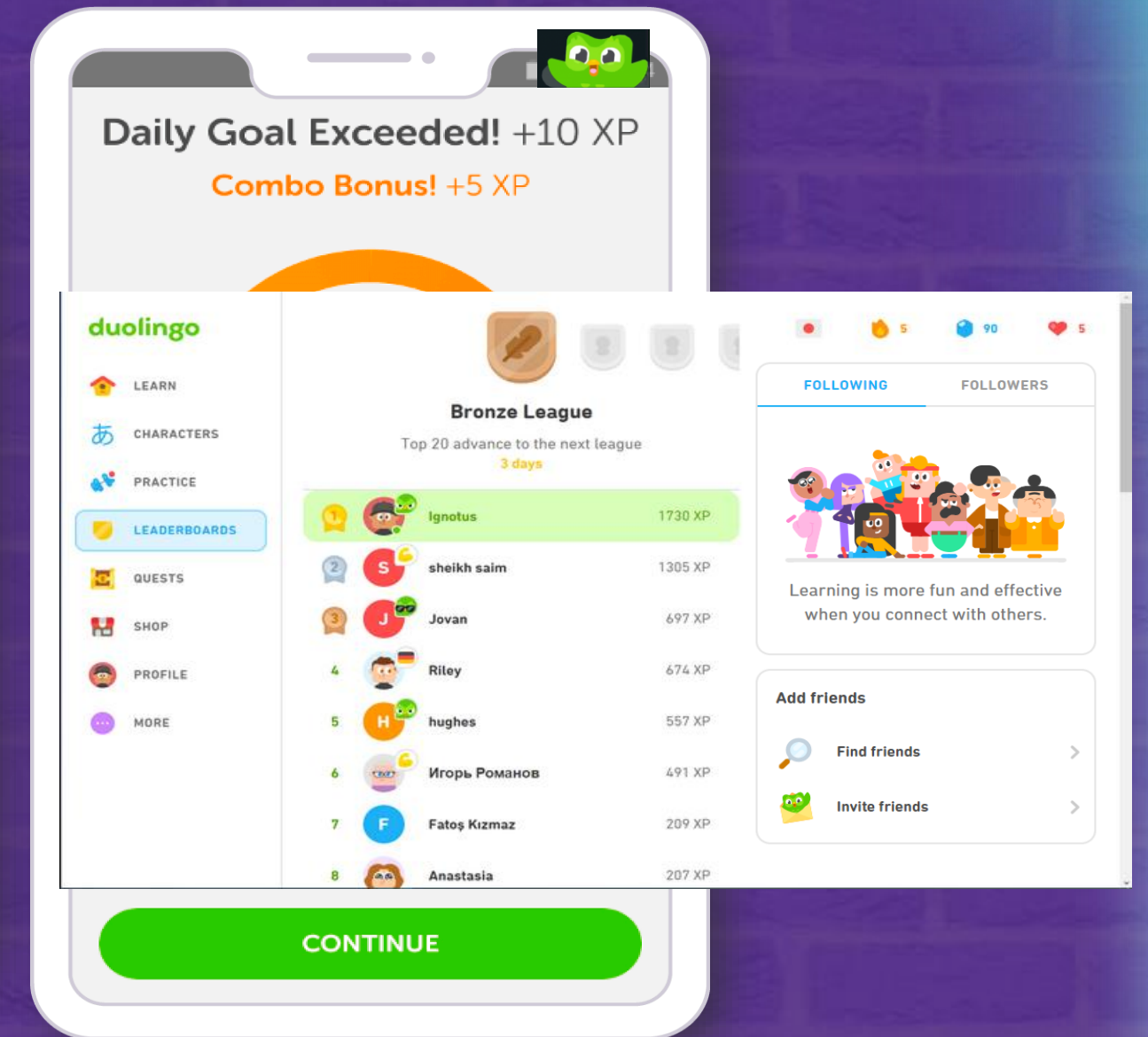
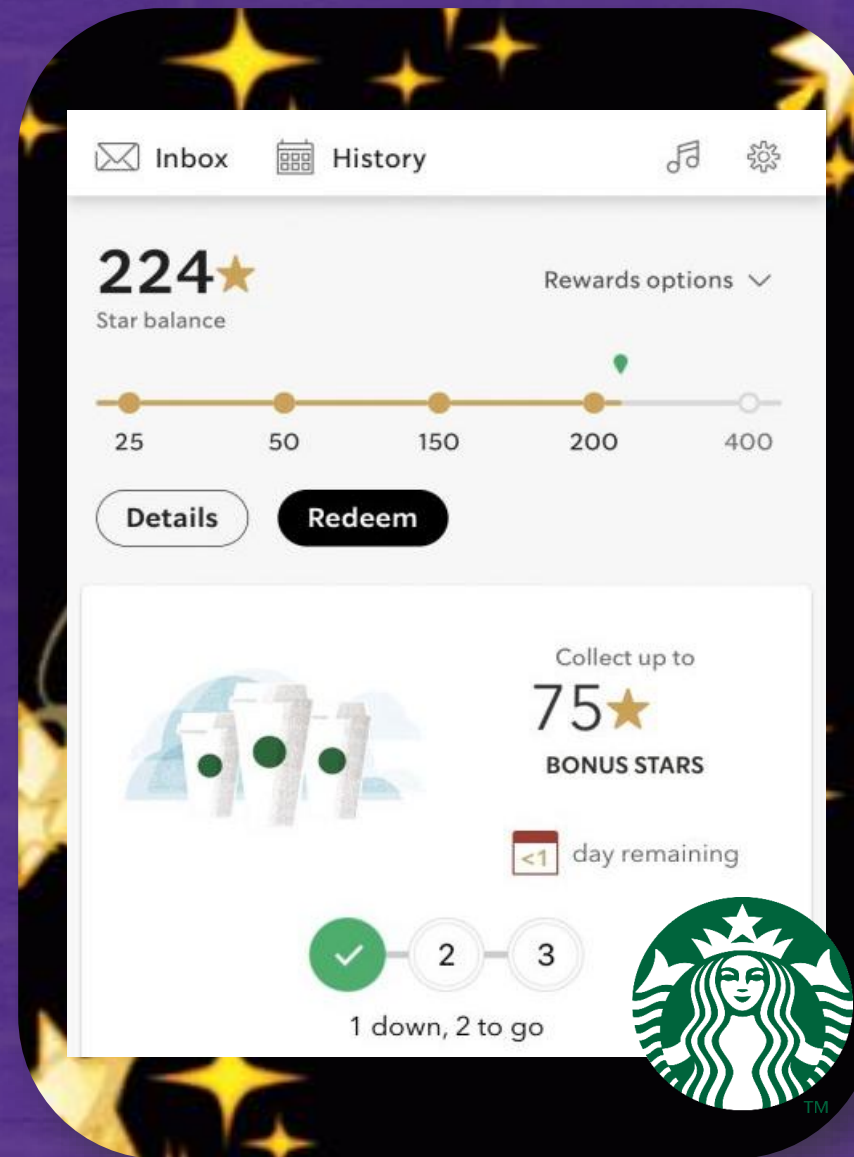
GAMIFICATION PRINCIPLES

**PROGRESS &
REWARDS**

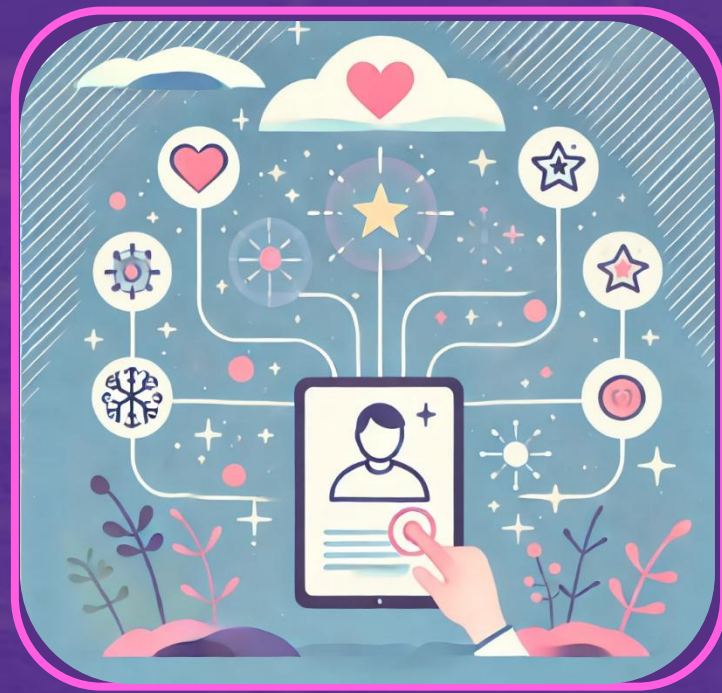
**CHALLENGES &
GOALS**

**FEEDBACK &
REINFORCEMENT**

**SOCIAL
INTERACTION &
COMPETITION**



THE ROLE OF AI IN GAMIFICATION



PERSONALIZATION

Tailored experiences



ADAPTION

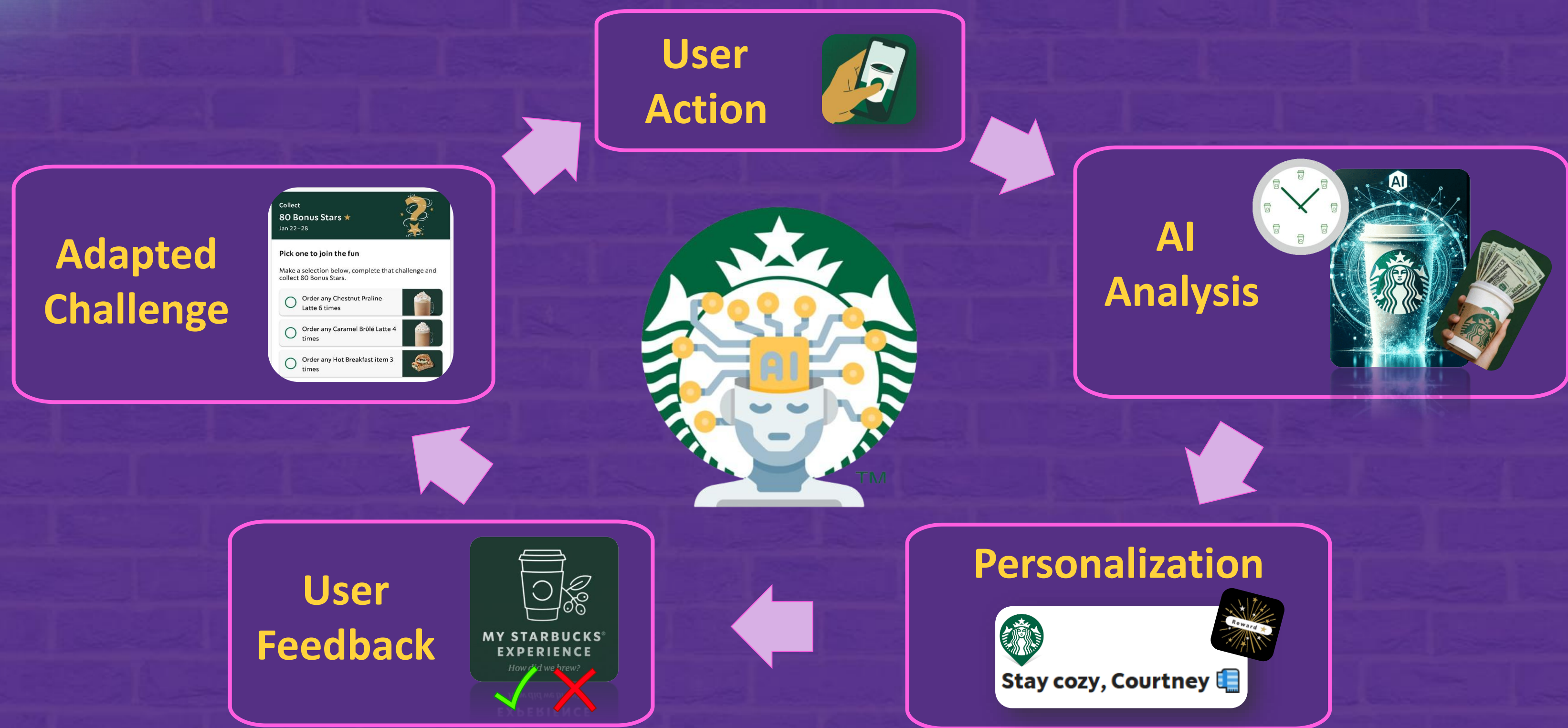
Dynamic analysis



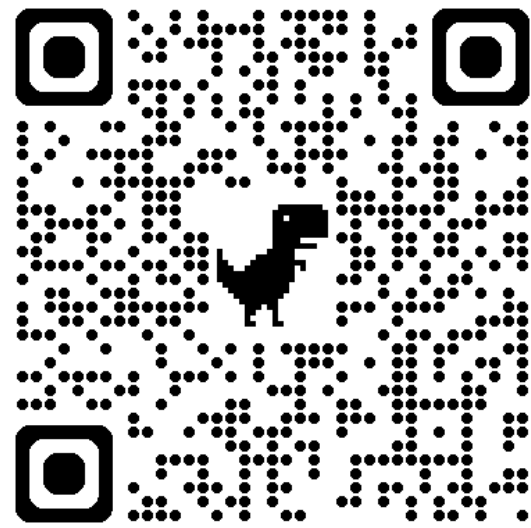


User
Action

AI-DRIVEN GAMIFICATION FLOW



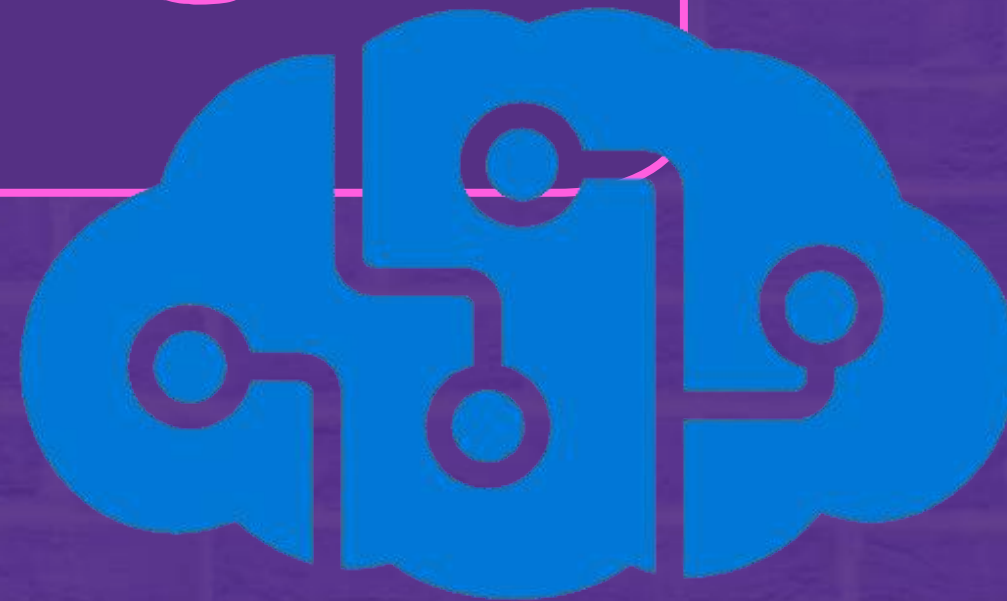
AI-GAMIFIED WEB DEMOS



github.com/cyatteau/nebraska-code-2025-ai-gamification



AZURE AI DEMO



How was your experience?

Share your thoughts...

Submit Feedback

Sentiment

Translation



AZURE AI DEMO -TAKEAWAYS

AI

Sentiment analysis

- Single/multi sentence
- Nuances
- Free tier – 5k transactions per 30 days
- Free tier – 2M characters per month

Gamification

Progress Bar

- Complete reviews

Rewards

- 'badge' & confetti

Goals

- # of reviews

Reinforcement

- Encouragement

Extras

ArcGIS Suggest

- Can be refined
- Free to use

ArcGIS Geocoding

- Address → Coords (Used here for country code)
- Free tier – 20k geocodes/month

OPENAI DEMO



Discover Interesting Facts about a Location!

Use Your Current Location

Submit

Enter a Location

Enter a city, place, etc.

Submit

Select a location and choose a fact type to get started!

*Text & Image
Generation*



OPENAI API DEMO - TAKEAWAYS

AI

Text Generation (gpt-4o)

- Create stories, facts, etc.
- Input: \$5/1M tokens, Output: \$15/M tokens

Image Generation (DALL-E)

- Create images
- Charges based on tiles & resolution

Gamification

Interactive Fact Finder

- Choice-based

Rewards

- suggestion & image

Goals

- # of facts

Reinforcement

- Encouragement

Extras

ArcGIS Reverse Geocode

- Coords → Address
- Free tier - 100/month (then \$0.13/month per 1k requests)

TENSORFLOW.JS DEMO



AI-Powered Quiz

Start

Current Difficulty: *Easy*

Predictions: [N/A]

Training complete! Model is ready.

Epoch (Training Round): 300 | Loss (Error Rate): 0.0761

Dynamic Difficulty





TENSORFLOW.JS DEMO - TAKEAWAYS



AI

Dynamic Difficulty

- Analyzes in real-time

Client-Side Execution

- Entirely in browser

Gamification

Progressive Mastery

- Difficulty levels

Feedback & Reinforcement

- Correct/Incorrect

Extras

Offline Support

- Works without internet

HUGGING FACE DEMO



*Sentence similarity
for matching*

AI Game Pairing

Discover your perfect gaming match!

Describe your play style (e.g., I enjoy strategic games)

Find Match

Describe your style above and click "Find Match" to see results.

How AI Calculates Matches

Show Details



HUGGING FACE DEMO - TAKEAWAYS

AI

Sentence Similarity

- Matches words, phrasing, etc.

Pretrained Models

- Effectively uses existing language models

Gamification

Social Competition

- Matching with peers

Rewards

- Badges

Feedback

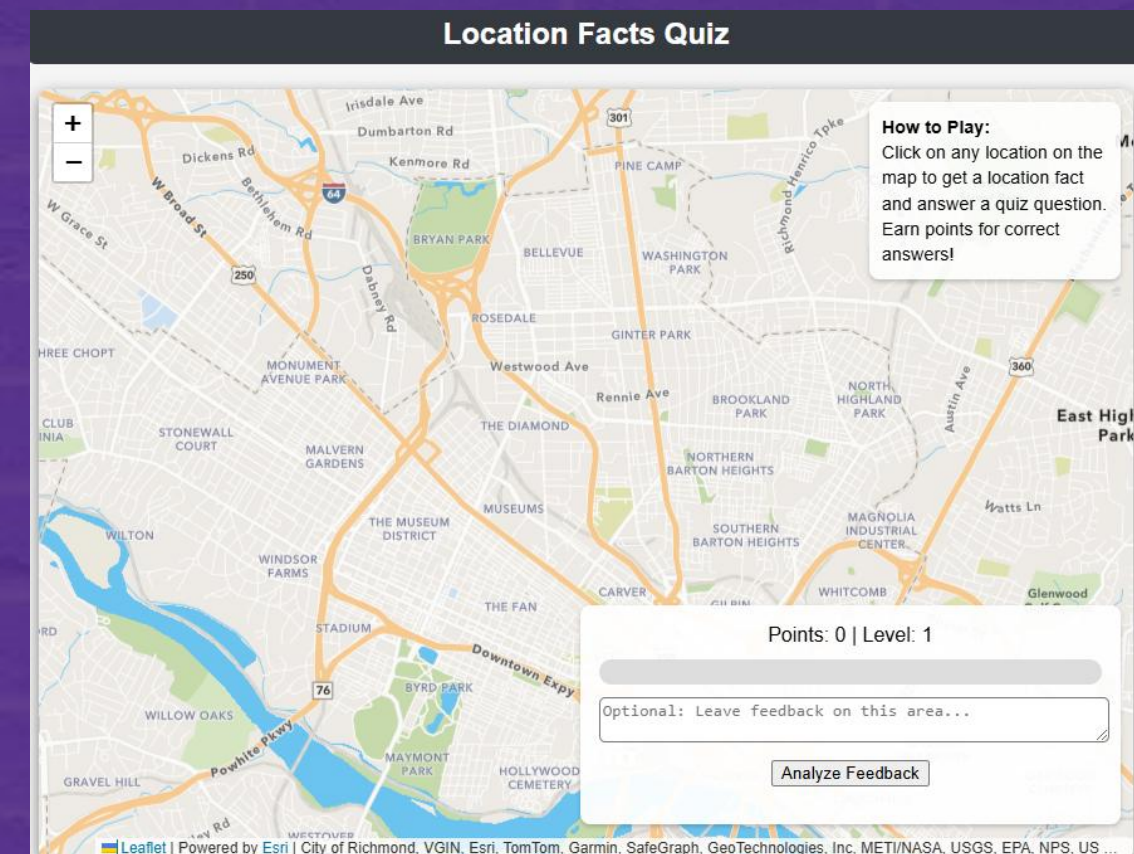
- Stars (user-driven)

Extras

ArcGIS Maps SDK for JS

- Free tier with Location Platform
- Maps location of players

COMBINED DEMO

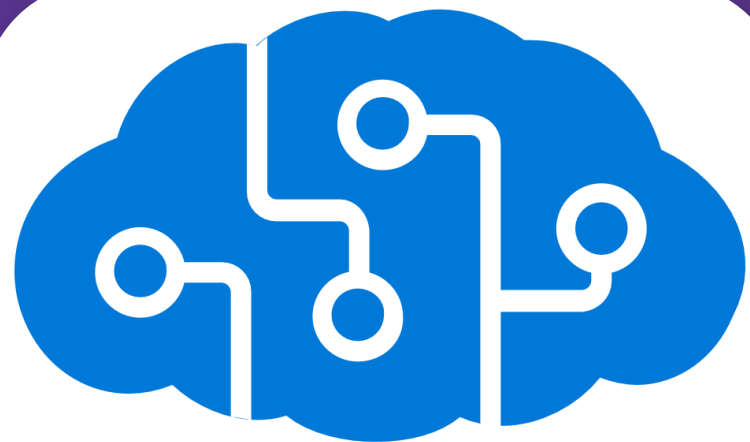


Gamified AI Map



KEY TAKEAWAYS

AI TOOLS FOR GAMIFICATION



Microsoft Azure
Cognitive Services

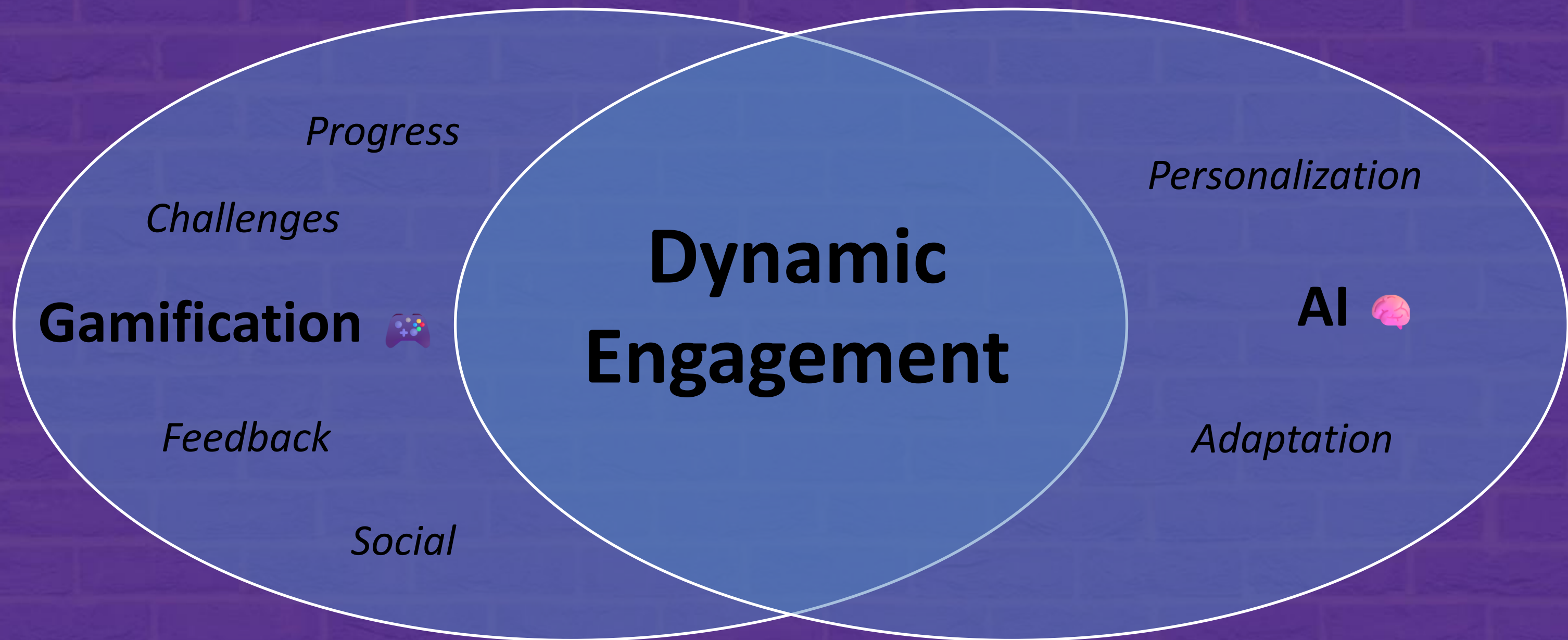


Hugging Face



KEY TAKEAWAYS

GAMIFICATION AND AI INTEGRATION



RESOURCES

- [Azure AI Platform](#)
- [OpenAI documentation](#)
- [TensorFlow.js documentation](#)
- [Hugging Face's sentence similarity model](#)
- [ArcGIS mapping/location documentation](#)
- [ArcGIS Location Platform](#)

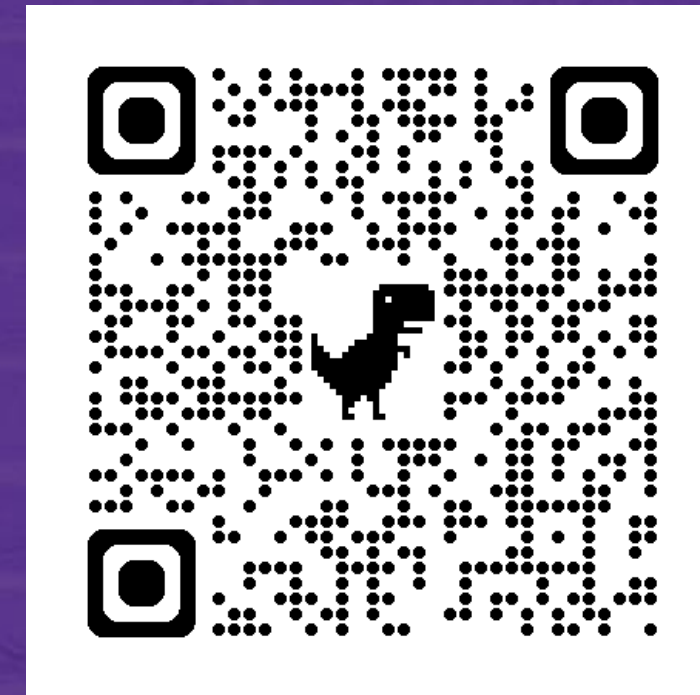
THANK YOU, Nebraska.Code!

Courtney Yatteau

  @c_yatteau

 courtneyyatteau

 @cyatteau.bsky.social



github.com/cyatteau/nebraska-code-2025-ai-gamification