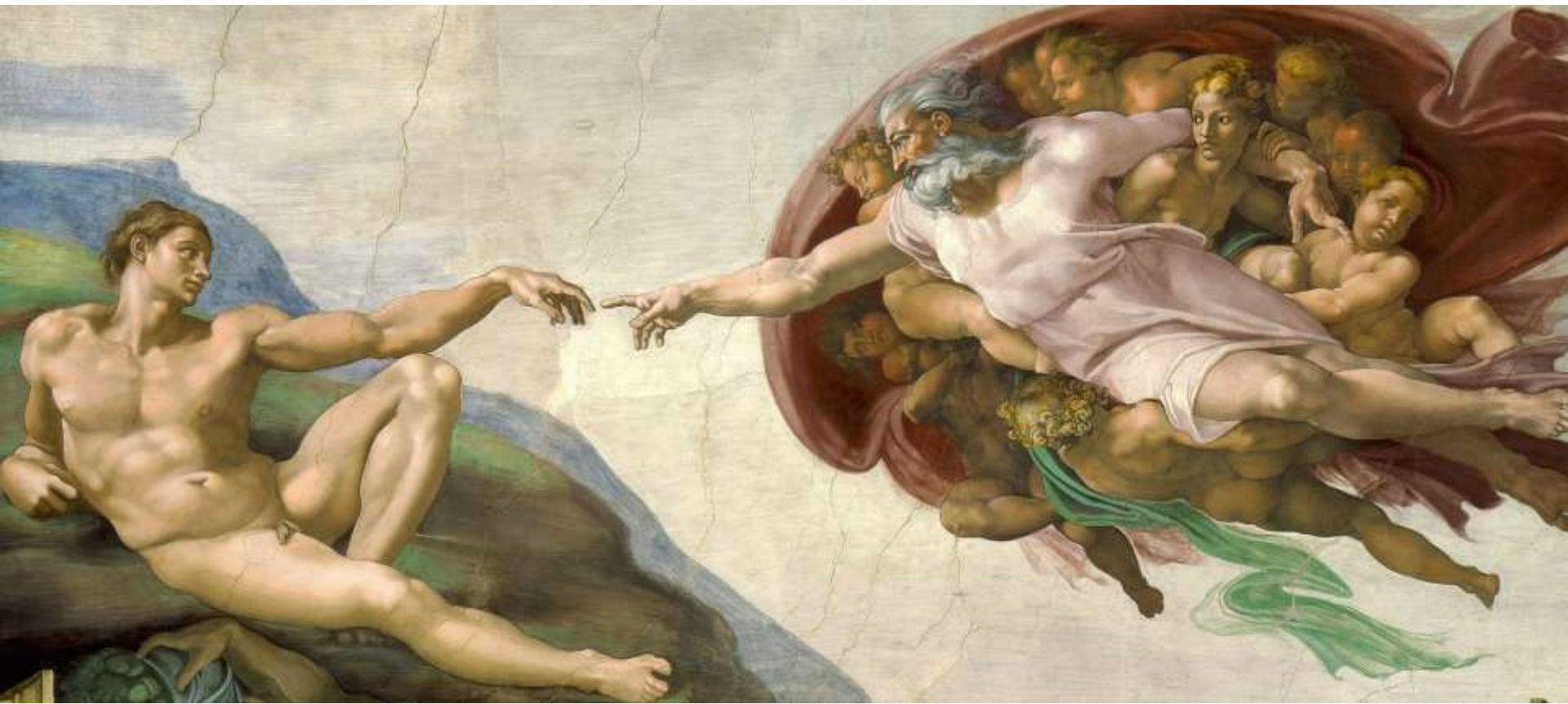


AI

Opportunities & Challenges

Aidan Connolly, CEO







What is AI?

Artificial intelligence and machine learning are a set of algorithms (software) that try to mimic human intelligence.



“The development of full artificial intelligence could spell the end of the human race.”

Stephen Hawking

The birth of AI

1956

John McCarthy
Dartmouth College, USA



AI in 2023

Most people think of:



ChatGPT



DALL·E



Created by a company called OpenAI

Others

Midjourney

Bard (Google)

Claude AI


Bing AI Chat

Using ChatGPT to increase productivity

<https://chat.openai.com/>

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A

I am giving a presentation to a room full of trade unionists, what should I talk about? 



Certainly, Aidan. Given your interest in economics, history, and AI, presenting to trade unionists offers a unique opportunity to bridge these disciplines. The challenge lies in making AI relatable and relevant to this specific audience who are often more concerned with worker rights, job security, and equitable labour practices. Below is an outline with key points you may consider:

Introduction

Ice-breaker: Briefly engage the audience with a short history of trade unions and their contributions to worker rights.

Purpose of the Talk: Clarify that the aim is not to promote or criticise AI but to provide an informed perspective on its impacts, potential benefits, and challenges.

Agenda Overview: Briefly summarise what you will cover.

Understanding AI

Definition and Types: Explain what AI is, focussing on Machine Learning and Natural Language Processing as they are the most relevant to service industries.

Current Applications: Discuss AI in sectors already familiar to the trade unionists, such as healthcare, transportation, or manufacturing.

Economic Impact etc etc

Draw me a picture of an attractive couple, smiling while drinking martinis

DALL-E:



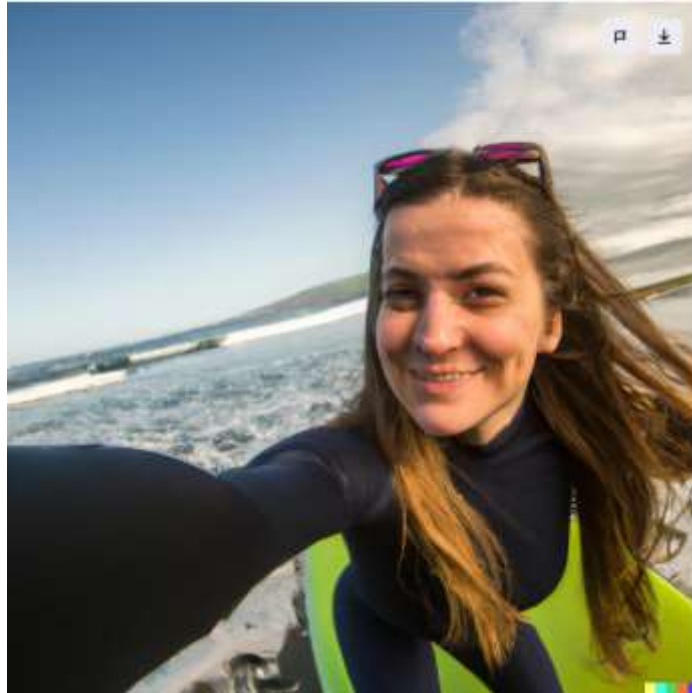
Draw me a picture of a dog parachuting, impressionist style

DALL-E:



Draw me a picture of a girl taking a selfie while surfing in Ireland

DALL-E:



AI pre-ChatGPT

... and into the future

Data science

Coding in e.g. Python or R

Example: To predict customer behaviour

```
# import pandas required libraries
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.ensemble import RandomForestClassifier
from sklearn.metrics import accuracy_score, classification_report

# Load data
df = pd.read_csv('data.csv')

print(df.head())

# Feature selection
features = ['age', 'income', 'is_subscribed', 'last_purchase_days']
target = 'will_purchase'

X = df[features]
y = df[target]

# Split data into training and test sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2,
random_state=42)

# Initialize Random Forest Classifier
clf = RandomForestClassifier(n_estimators=50, random_state=42)
```


Predictive / Prescriptive modelling: sample output

Customer ID	Sales Q1	Payment Type	Age	Num Visits Q1	Pitch new our product to this customer?
98434	€155	MasterCard	34	7	No
54678	€72	Revolut	27	4	Yes
88358	€291	PayPal	42	11	No
91124	€118	Visa	54	4	No
81127	€44	Revolut	35	6	Yes
28287	€37	PayPal	26	12	No
11109	€83	Visa Debit	48	5	Yes
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
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If SALESQ1 <= 85 AND PAYMENT_TYPE IS 'REVOLUT' OR 'VISA DEBIT' AND NUM_VISITS <= 6 THEN answer = YES

Business applications for AI

1. Content generation
2. Customer care
3. Software development
4. Research / ideation
5. Translation, summarising and correction



Accessible to all

6. Churn prediction – predicting which of your customers are likely to switch to your competitors
7. Cross-sell / up-sell – identifying prospects to sell (or sell more) to
8. Identify which key staff members to promote and upskill
9. Optimise debt collection by identifying customers most likely to honour their debts
10. Predict the likelihood and times of equipment failure thus optimising maintenance scheduling

Data Scientists + Coding



Economic & societal impact

Economy

- Risk of significant unemployment coupled with growth
- May need to plan for liveable wage
- Return of manufacturing / (robotics)
- Small cohort with outsized powers of control

Society

- Individual self-actualisation issues
- Relationships
- Disconnect from reality
- Social unrest

Global risks

- Robot armies
- Autonomous drones / missiles
- Cyber-hacking – energy, transport, water etc

The promise of AI

Expect...

- Massive and rapid advances in pharmacology & genetic science
- Autonomous transport and manufacturing
- New material discovery / new chemicals
- Reduction/elimination of repetitive tasks
- Fewer errors, more efficiency, better use of resources
- Better, cheaper, more accessible health care, customised medication
- More efficient government

Staying in control

1. We cannot, and should not, shun AI
2. EU AI Act could go further - should regulate pernicious use of AI (echo chambers, polarization, automated content generation, deepfakes etc)
3. Insist on transparency / explainability (why, what data – can't leave this in the hands of technologists)
4. AI auditing needs to become common-place and frequent – regulated and certified
5. National legal frameworks needed for each EU member
6. We need better sharing of, and access to, data esp. government / state data
7. Need to focus educational efforts on leveraging and understanding AI
8. AI literacy needed at governmental, academic and business levels
9. Invest in advanced AI research AND regulatory innovation



AI is probably the most important thing humanity has ever worked on. I think of it as something more profound than electricity or fire." - Sundar Pichai, CEO of Google



Thank you.

Aidan Connolly

CEO

Idiro Analytics

Dublin, Ireland

