

**THE FUTURE LANDSCAPE
OF ENERGY WITH
AI**

ESTHER TOMKINSON




WHO AM I?



Esther
Tomkinson
Sustainability and
Strategy Analyst
and
Co-Chair of YEPN

**My career is not typical.
No one's in energy's is.**

Young Energy Professionals Network



SUPPORTED BY THE BUSINESSNZ ENERGY COUNCIL

Purpose

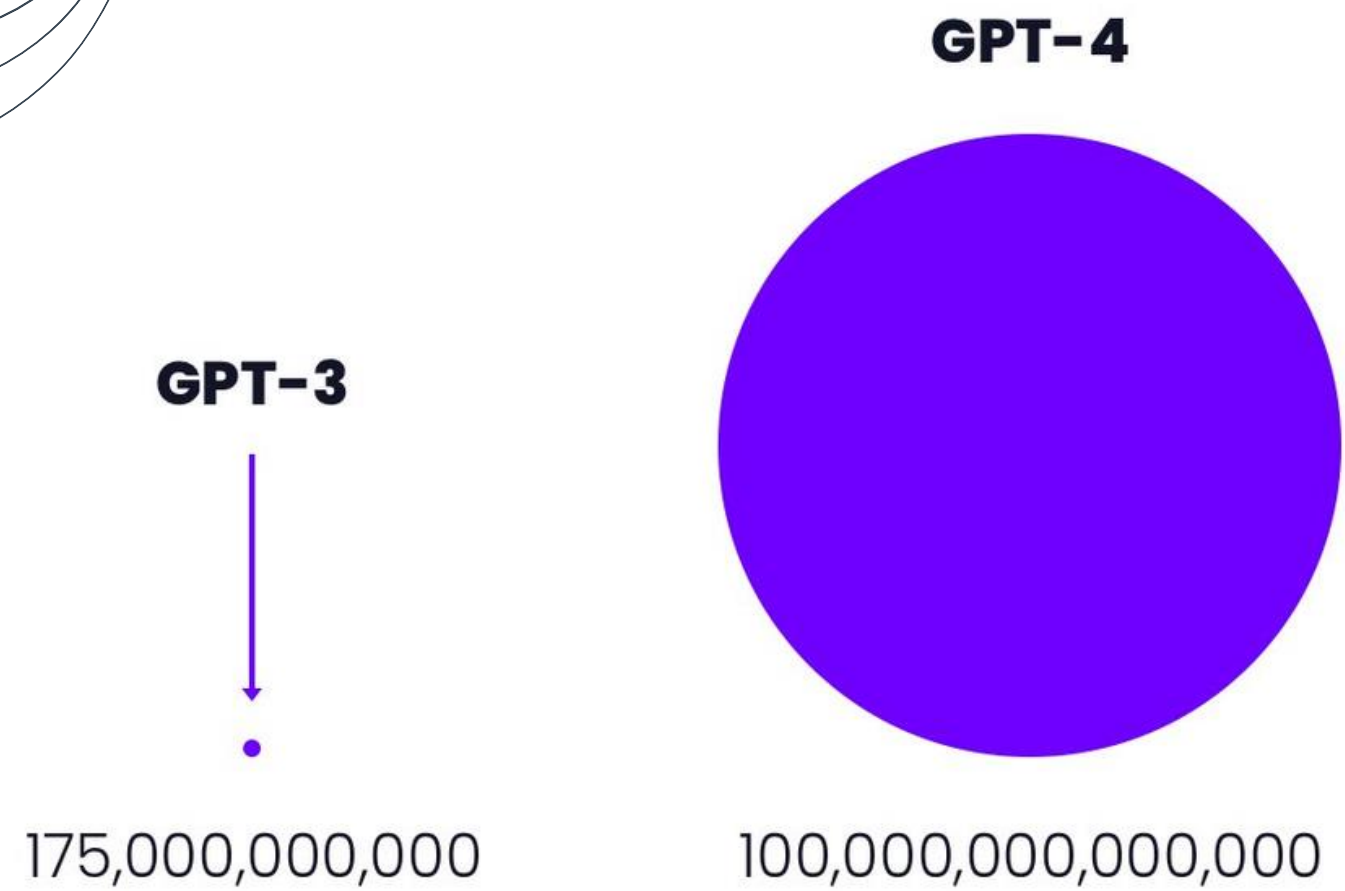
Promote the energy sector to young people* to maximise its long term health and contribution to New Zealand's future

Vision

For our members to be recognised as industry leaders and for the sector to provide a wide range of opportunities to amplify a diverse future workforce

EXPONENTIAL GROWTH...

How far will we go?





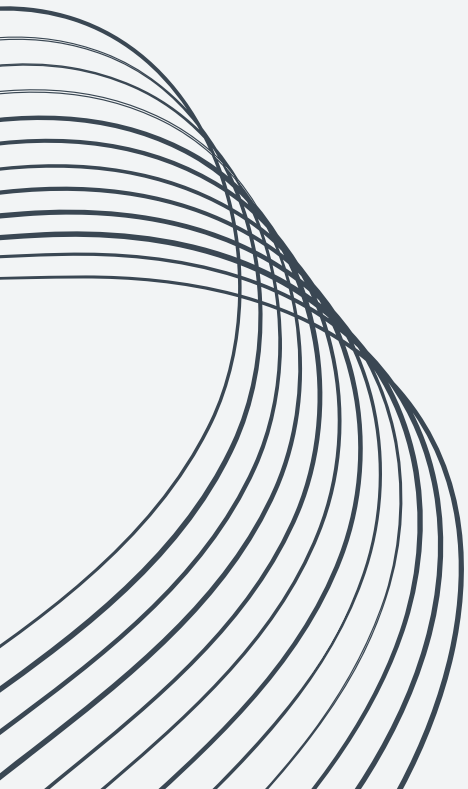
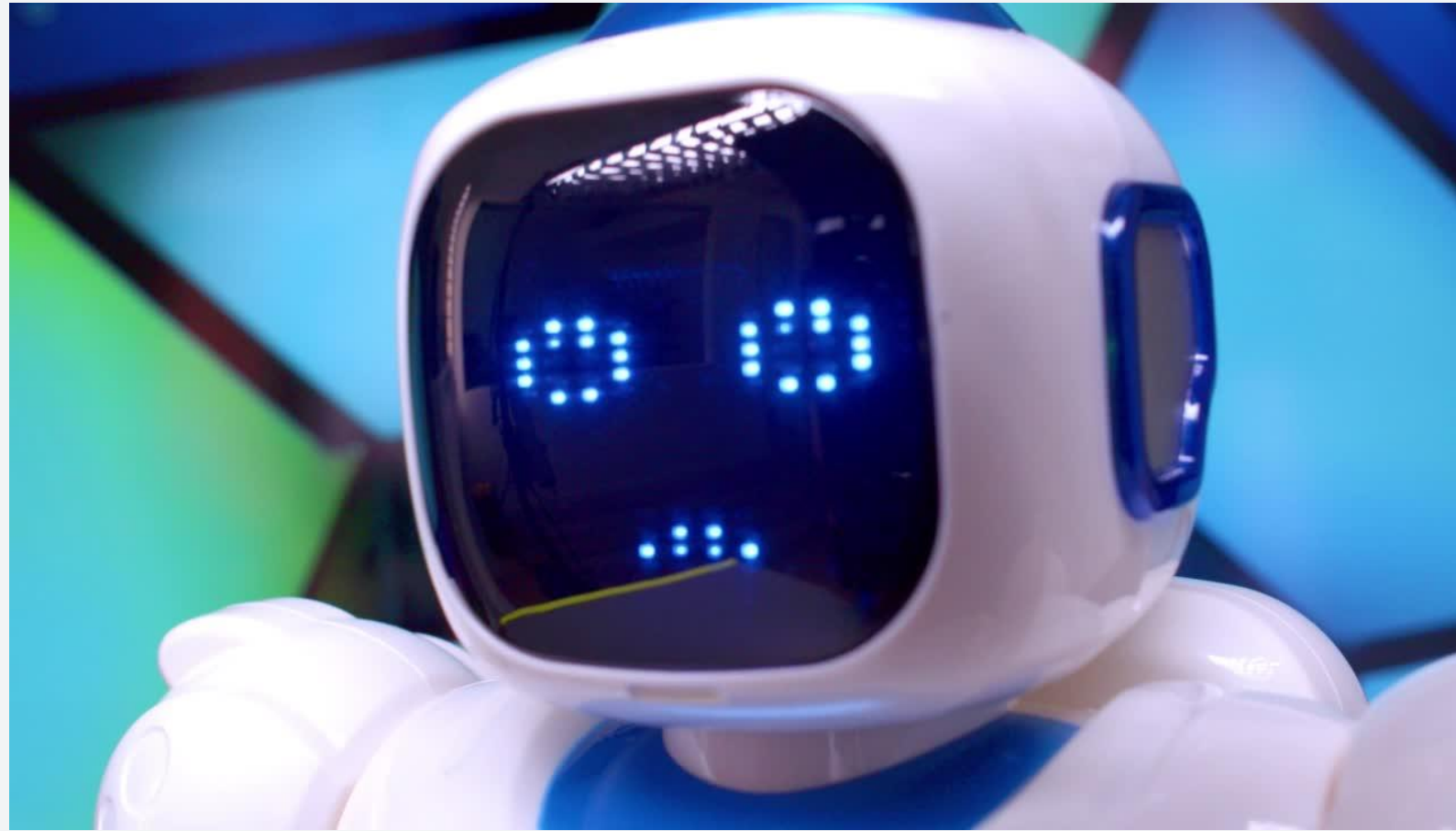
The IQ of AI
is predicted
to be 10,000
by 2030...



Productivity gains...

The future workforce and AI with energy focus

ROBOTICS



COMPUTER VISION



COLLABORATION NOT COMPETITION



By combining the strengths of both humans and AI, we can achieve significant performance improvements.

EFFICIENCY

01

COMPLEMENTARY STRENGTHS

AI excels at processing data and performing repetitive tasks, while humans are creative, empathetic, and critical thinkers. Working together, humans can provide context and decision-making abilities, while AI can provide data-driven insights.

02

INCREASED EFFICIENCY

AI can handle repetitive tasks swiftly, freeing up employees to focus on more complex work. This leads to higher productivity and faster completion times.

03

INNOVATION

AI can help generate new ideas and solutions by providing data-driven insights, while humans can provide the creativity and critical thinking necessary to turn those insights into actionable plans.

04

ETHICAL CONSIDERATIONS

There are concerns about job displacement, privacy, and the responsible use of AI. It's important for organisations to address these challenges in order to ensure that the collaboration between AI and humans is beneficial for all parties involved.

COLLABORATION NOT COMPETITION



COLLABORATION IN ENERGY



Analysis of historical data consumption, and weather patterns to understand energy demand. Humans can adjust generation and distribution in real time.

DEMAND FORECAST



Sensors and AI-driven predictive maintenance models monitor the health of energy infrastructure. Humans use those insights to schedule maintenance activities proactively

MAINTENANCE OPTIMISATION



AI models analyse data from renewables and predict the output, humans can then make real-time decisions on distribution and maximise utilisation of clean energy.

RENEWABLE INTEGRATION

CURRENTLY...

Investment in Renewable Energy Sources

Energy companies are investing in new green technology, adding these to their portfolio to meet 2050 goals

Smart Grid Implementation

Companies are adopting Smart Grid tech to improve energy distribution, consumption patterns etc.

Electric Vehicle Infrastructure

Companies are collaborating with charging companies, changing their propositions to attract customers based on this.

Data-Driven Decision-Making

They are leveraging data analytics and AI to make more informed decisions about energy production, distribution, and consumption.

Partnerships and Collaborations

Companies are working together for the greater good of the end consumer, looking at innovative solutions

Customer-Centric Approaches

Customer-centric strategies are taking over the way companies operate offering tailored solutions, demand response initiatives etc.

JOB DISPLACEMENT?

85 million jobs globally will be replaced by AI by 2025.



AI can potentially generate 97 million new roles.



Obsolete

Meter reading

Routine Maintenance

Data Entry and Processing



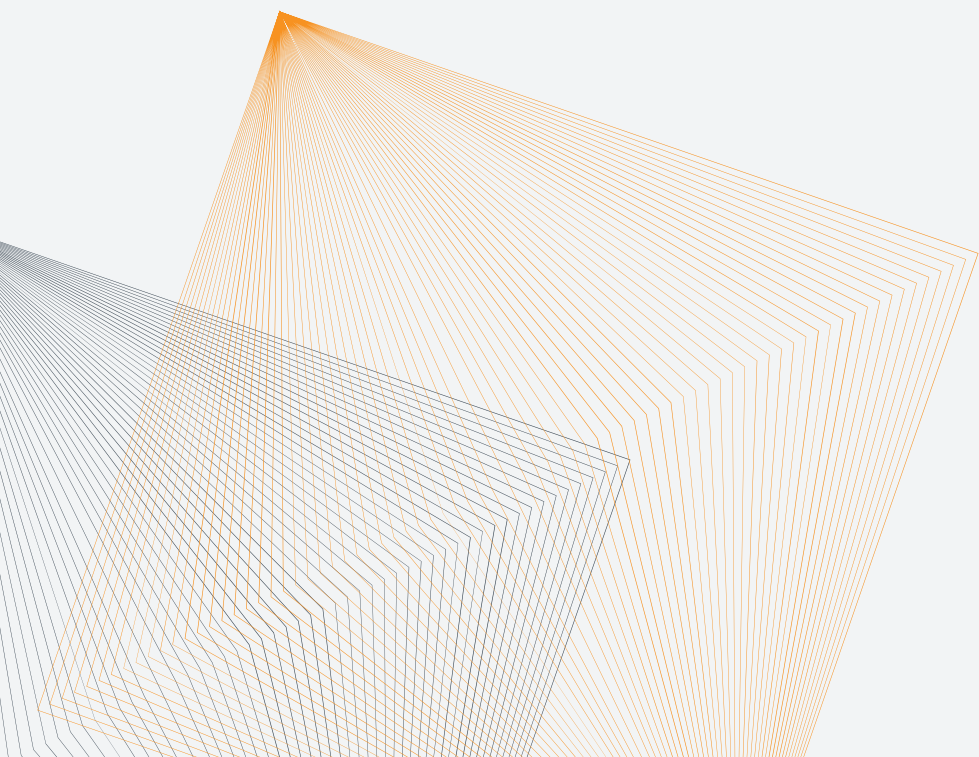
Created

AI Trainers

Cybersecurity specialists

AI Ethicists

**Sustainable Energy
Planners**



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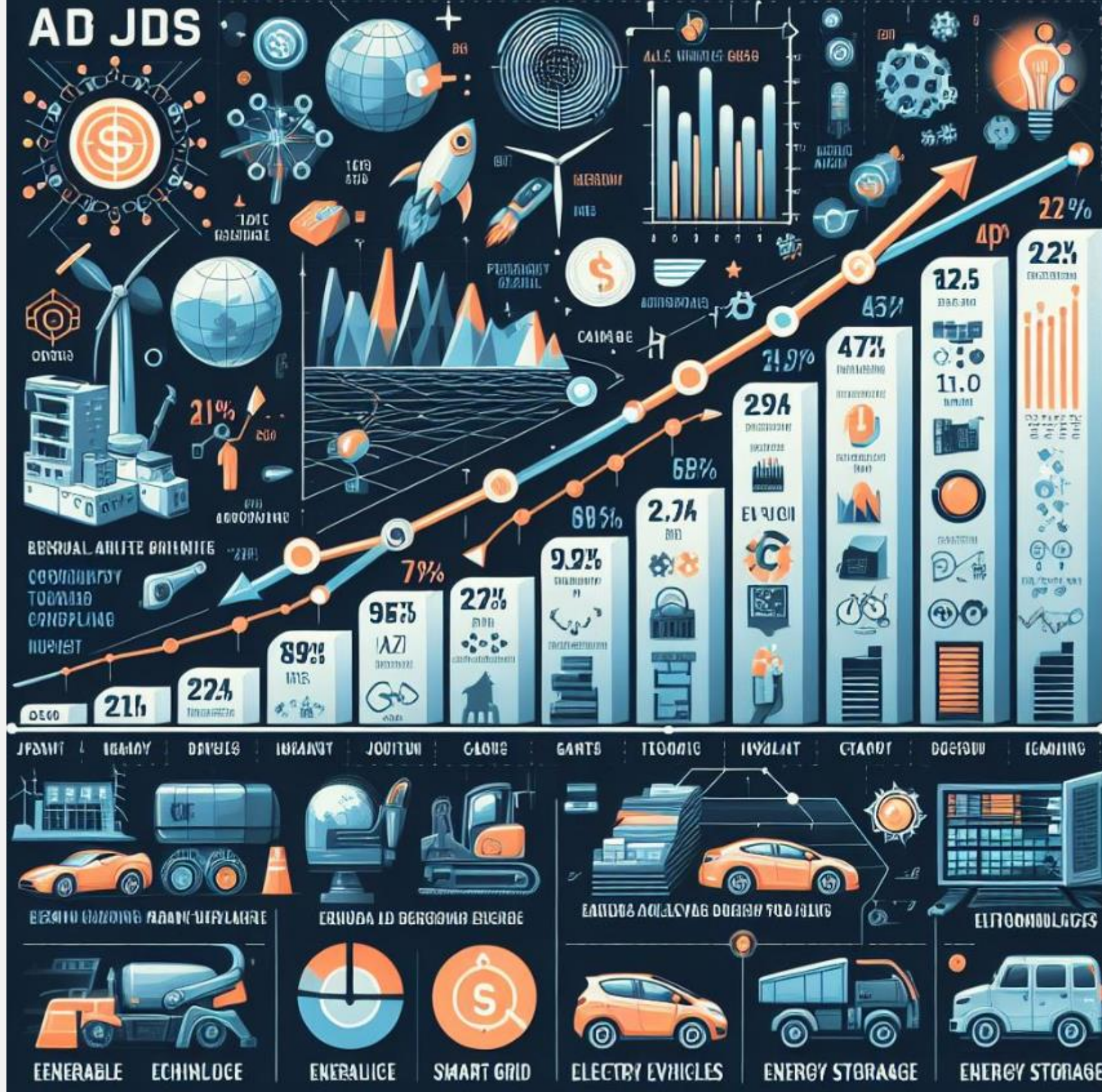


Coal Miners
A hzye anelactne

Oil Rig operators
Wecac de eweliter

Motor Insollcors
A mltel anelactne

Pipeline Engineers
Ntwc aligcde anelactne



VALUED SKILLS...

Currently...

- Engineering
- Accounting
- Data Analyst
- Software development



Future skills...

- Critical thinking
- Fact-checking
- Prompt generation
- Emotional Intelligence
- Communication


NEXT GEN...

Being a
human in a
world that is
increasingly
less human...

Shaping Tomorrow

- AI is revolutionizing work dynamics.
- Impact on jobs and coexistence.
- Prepare the next generation for an AI-driven future.

Skills for the AI Era

- AI demands new skill sets.
 - Lifelong learning is crucial.
 - Equip the next generation with adaptability and curiosity.
- 



Scan to join



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THINK HARDER

*What does your future look like with
AI intertwined?*

