

# Global Occupational Therapy Thinktank

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Leveraging  
Artificial Intelligence to  
enhance the next generation  
occupational therapy  
practice and education.

Innovations, Challenges  
& Future directions



# Artificial Intelligence & Occupational Therapy

Have we optimised it as a Science or a Tool?

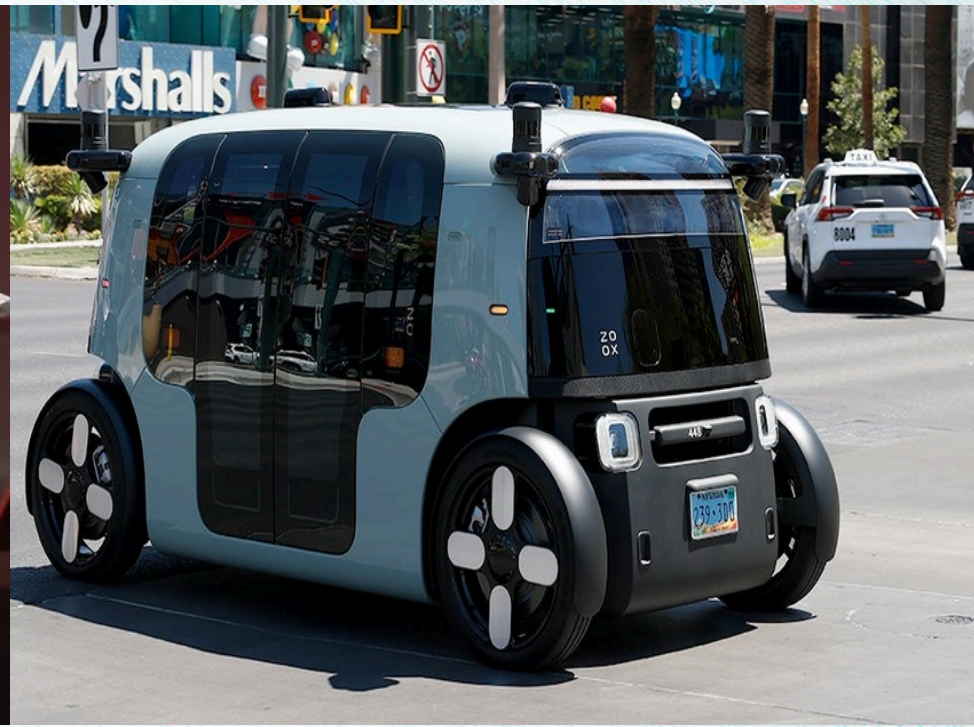
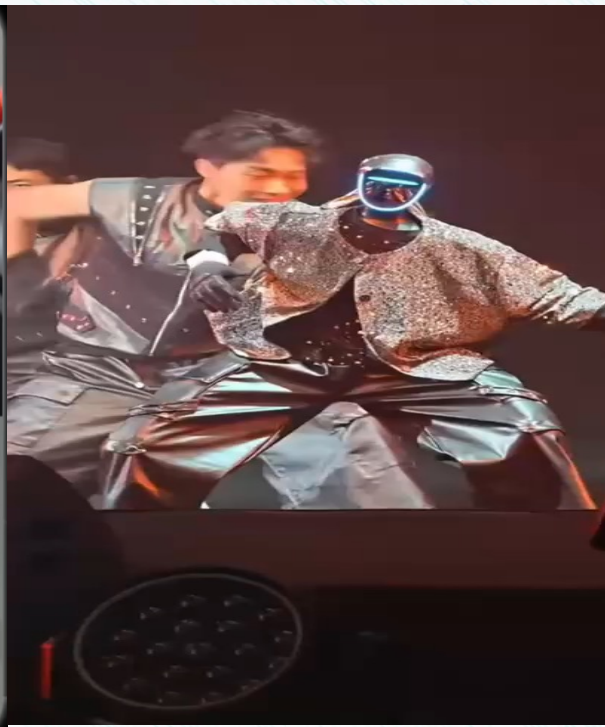


A science is a systematic, theory-driven, and evidence-based approach to understanding phenomena through structured inquiry and critical testing.

# Leveraging AI in Occupational Therapy

Conceptualisation is the Key

Which one to use as a Science and a Tool



Human training a Robot to Replace Battery for itself ?

HOW?

AI helping Human to plan & travel

# Next Generation Occupational Therapy Practice

## It's Strategically Evolving

Post COVID Occupations

Use of Technology in Daily life

Changing Health Systems

Expanding Societal Needs

Life Roles

Digital Lifestyle

Intelligent Systems

Identity & Inclusion

# Traditional vs. Next-Generation Occupational Therapy Education

## Traditional OT Education



Content-Focused Learning



Standardized Methods



Clinical Setting Focus



Profession-Specific Training

**Vs**

## Next-Generation OT Education



Adaptive, Critical Thinking



AI & Technology Literacy



Interdisciplinary Training



Ethics & Occupational Justice

# Leveraging AI in Occupational Therapy Practice

## INNOVATIONS



Whether  
to Treat?

How  
to Treat?

|                                | SCIENCE  | PRACTICE | DELIVERY                                  |
|--------------------------------|--|----------|---|
| <b>CLASSIFY<br/>(DIAGNOSE)</b> | AI-Enhanced Assessment & Occupational Performance & History Analysis |          | Smart Assistive and Adaptive Technologies |
| <b>PREDICT<br/>(PROGNOSE)</b>  | Personalized and Predictive Intervention Planning                    |          | Digital Therapeutics, VR, and AR          |
| <b>RECOMMEND<br/>(DECIDE)</b>  | Ethical Oversight and Human - Centred AI Design                      |          |   |

# Leveraging AI in Occupational Therapy in Education

## INNOVATIONS

AI Supported Learning and  
Assessment

Virtual Simulation and Digital  
Fieldwork

Critical Use of AI for Research and Knowledge Translation

Interdisciplinary  
and  
Co-Designed  
Education

# Leveraging AI in Occupational Therapy

## CHALLENGES

- Reducing complex occupations to measurable variables
- Trained on existing data which could introduce bias and inequity
- AI models lack explainability- provide outputs without clear reasoning
- Professional Role confusion and deskilling
- Integration into Real-World Practice
- Faculty readiness and curriculum overload
- Risk of technological determinism
- Ethical and legal uncertainty - privacy, intellectual and artistic property.
- Unequal access to technology

# Leveraging AI in Occupational Therapy

## FUTURE DIRECTIONS

**REFRAMING**

**AI From Tool to Collaborative Science**

**STRENGTHENING**

**Human-Centered, Explainable AI in Practice**

**ADVANCING**

**Precision and Participation-Focused Care**

**RE-DEFINING**

**OT Education for an AI-Enabled World**

**EXPANDING**

**OT's Role Beyond Traditional Boundaries**

# Concluding Remarks

*Artificial intelligence challenges occupational therapy to clarify its identity—not weaken it.*

*When guided by occupational science, ethical reasoning, and human-centered values, AI becomes a powerful ally in advancing participation, inclusion, and quality of life.*

*The future of occupational therapy is not about technology replacing care, but about professionals leading technology toward more humane, meaningful, and equitable health systems.*