

# Universal Automation Wiki

*With Iterative AI*

2025



# Agenda

## *Introduction*

Introduction to the Universal Automation Wiki & what we offer

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## *Iterative AI & bottom-up design*

Iterative AI: Our Core Technology & the bottom-up methodology

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## *What makes us different*

What makes the Universal Automation Wiki different

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## *Who Benefits*

Who can benefit from the Universal Automation Wiki

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## *Get Involved & Questions*

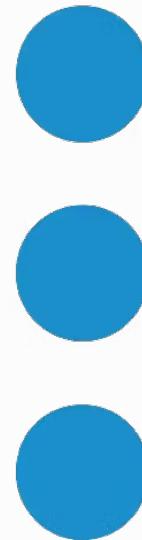
Contact information for the project maintainer

# The automation revolution

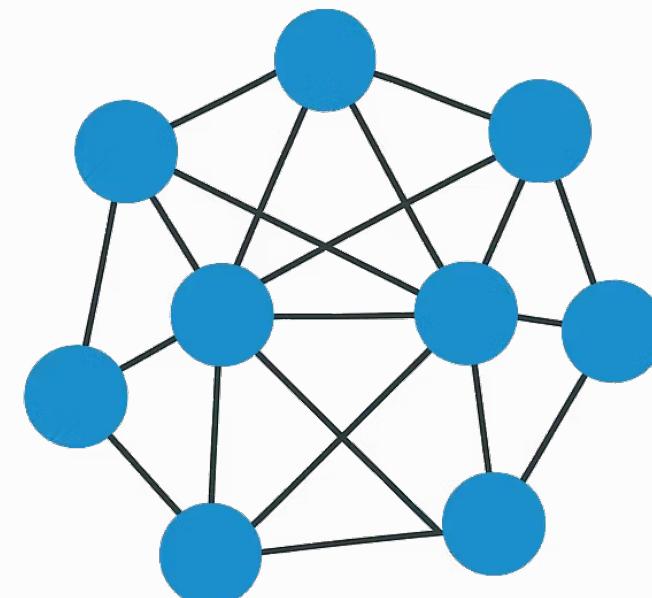
## *Current Landscape*

Automation knowledge is fragmented across domains  
Progress tracking relies on expert opinion & bias  
No clear timeline for when full automation will be achieved  
Difficult to identify real technology gaps

### **Siloed Knowledge**



### **Connected Knowledge**



## *The Opportunity*

Create a unified, data-driven platform that maps and predicts automation progress across all domains with transparency and consistency

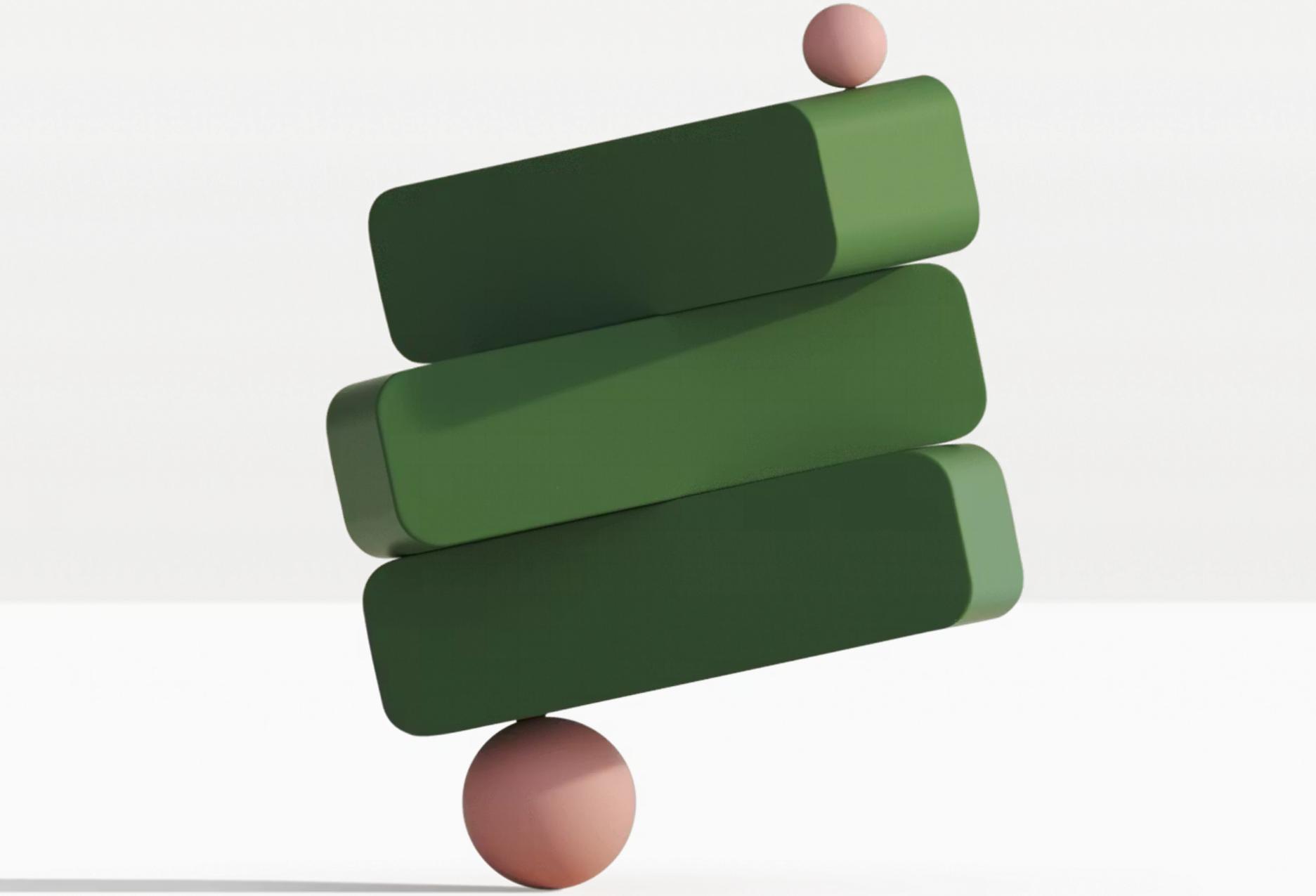
# Universal Automation Wiki

# Our Mission

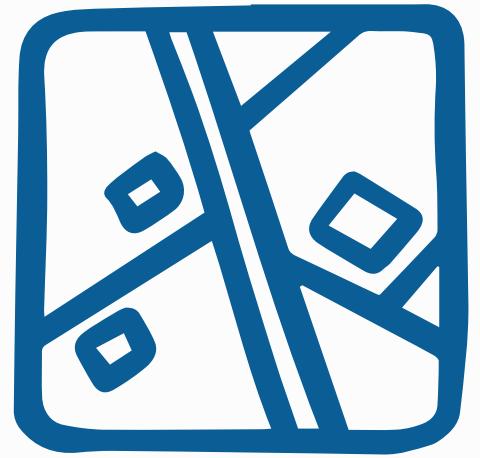
We aim to track the progress towards a technological singularity, encourage automation technology development, provide a structured understanding of automation possibilities, and democratise access to automation knowledge

# Why now?

- LLM advancements enable sophisticated task breakdowns
- We are on the forefront of AI agent-based capabilities
- Increasing need for realistic automation roadmaps
- Technology readiness for community-driven knowledge systems
- Growing interest in automation across industries

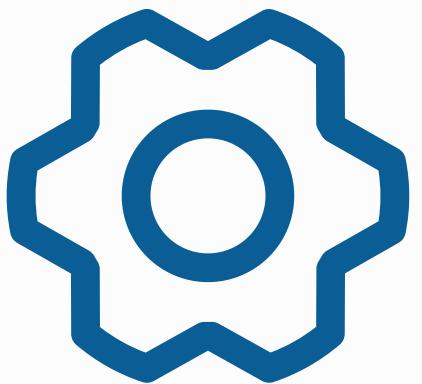


# What we offer



## *Automation Mapping*

Visualise progress across domains with interactive trees



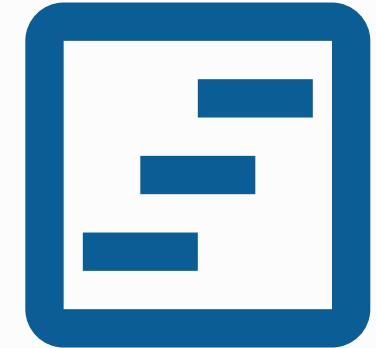
## *Iterative AI*

Break complex tasks into hierarchical trees of steps



## *Community Driven*

Contribute feedback and vote on the best automation approaches



## *Future Predictions*

Data-driven insights on automation timelines

# Iterative AI: Our Core Technology

Iterative AI is grounded because it starts with existing technologies, rather than having theoretical goals

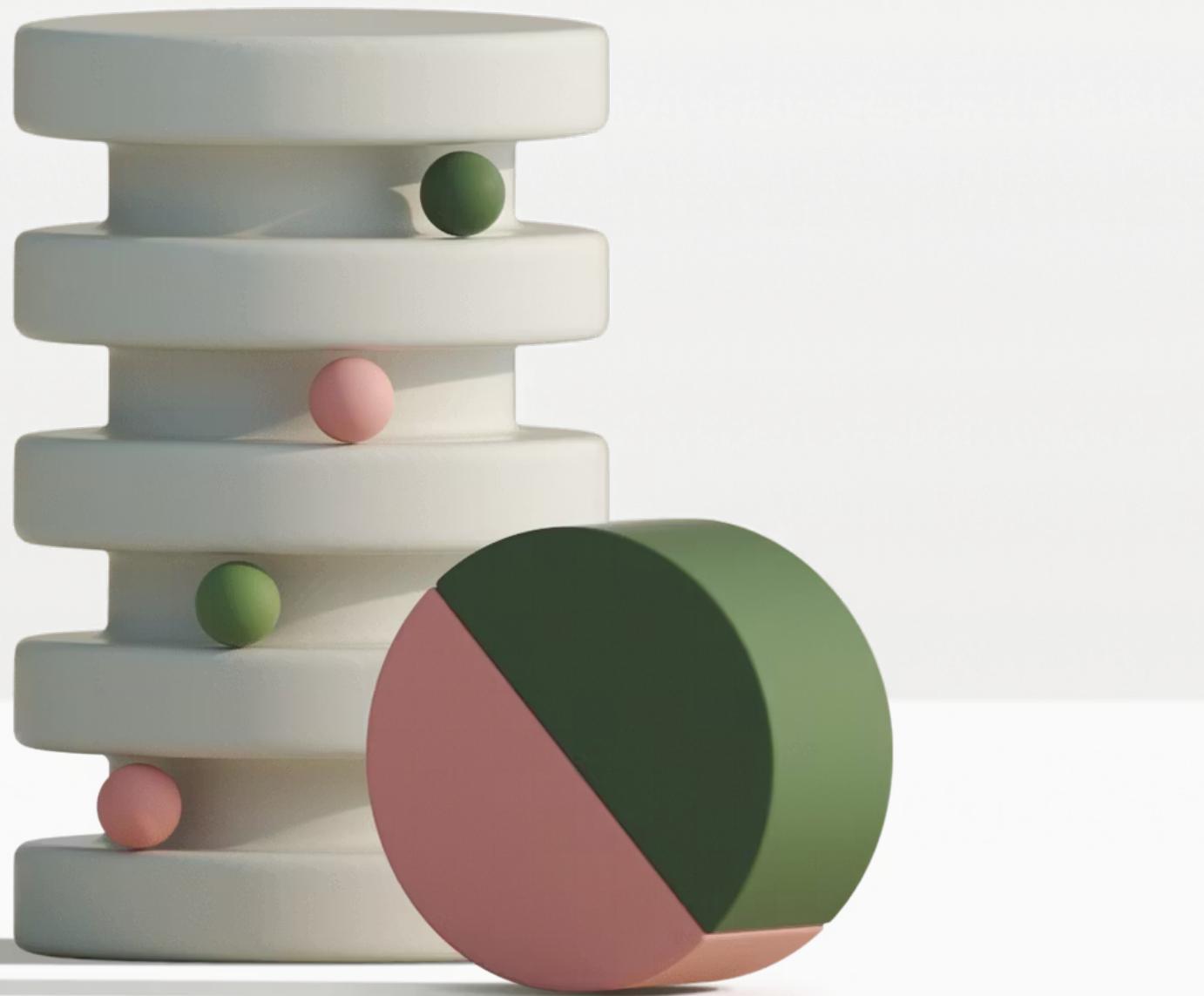
It works by creating hierarchical task trees with multiple solution paths

Each step can have *multiple implementations*

The system learns from user feedback how to identify the optimal paths



# Unlike Traditional Models



Traditional planning starts with a goal and works backwards, often ignoring practical limitations

This leads to a lack of grounding in reality, and is infamously difficult to create a time estimate for

# Bottom-Up Design

01

## *Grounded in Reality*

Built on existing, proven technology and automation components

02

## *Accurate Predictions*

Timeline estimates are based on the real capabilities of current technology

03

## *Gap Identification*

This process clearly shows where innovation is needed in an industry

04

## *Practical Pathways*

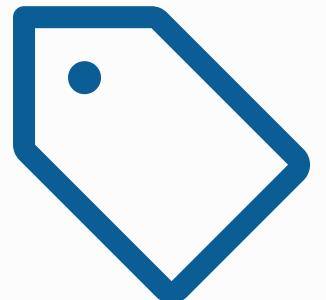
Creates achievable routes to full automation

## A Novel Approach

Most AI systems use top-down design. Our bottom-up agent-based system is fundamentally different



# Objective Knowledge Assessment



## *Quantitative Metrics*

Replace subjective opinions with quantitative metrics



## *Capability Validation*

Technology maturity assessed through capability validation



## *Community Feedback Scores*

Article quality also measured by community feedback scores



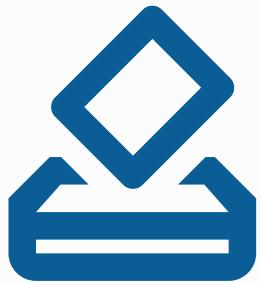
## *Component Availability*

Automation readiness calculated from component availability

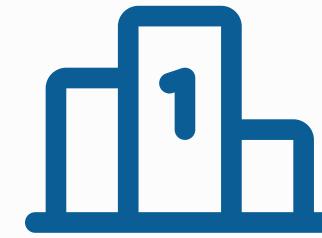
## The Democratisation of Information

Anyone can contribute and influence the direction through validated metrics, not just the loudest voices

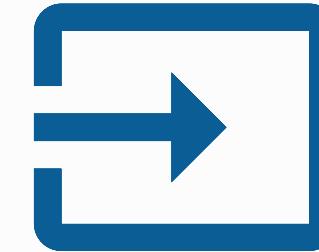
# The Feedback Engine



Users vote on alternative implementations of automation steps



The highest-rated approaches rise to the top



Users can submit new capabilities they discover



Community validates and refines automation pathways



System continuously evolves based on collective intelligence

# What makes us different

	Universal Automation Wiki	Traditional Wikis	Expert Knowledge Bases
Design Approach	Bottom-up (Starts with existing components)	Flat structure with categories	Top-down (Starts with goals/concepts)
Quality Assessment	Transparent & objective metrics-based scoring	Subjective editor consensus & citations	Closed "trust us" authority with limited transparency
Knowledge Structure	Dynamic trees showing multiple solutions	Static articles with fragmented information	Rigid frameworks resistant to innovation
Timeline Predictions	Data-backed forecasts with measurable accuracy	Absent or purely speculative	Biased projections based on limited expert viewpoints
Bias Mitigation	Democratic voting system immune to individual bias	Dominated by the vocal few & edit wars	Echo chambers reinforcing established viewpoints
Contribution Barrier	Inclusive system where quality speaks for itself	Requires editor/moderator approval	Exclusive club limited to established credentials
Adaptability to Change	Rapid evolution through continuous feedback	Slow updates depending on editor/moderator availability	Resistant to change outside scheduled revision cycles

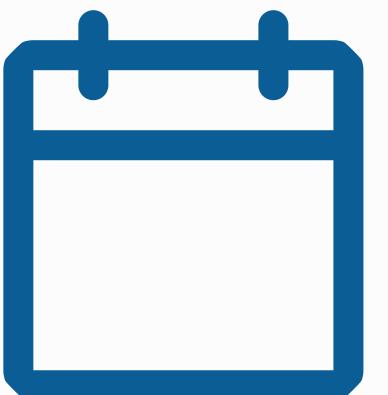
# Who benefits?

## Industry Applications



### *Research & Development Teams*

Benchmark automation readiness and identify opportunities



### *Technology Planners*

Forecast industry trends and adoption timelines

## For Enthusiasts



Track progress towards a technological singularity



Contribute to a global mapping of automation capabilities



Explore what's possible with current technology

# Get Involved Today



Explore the wiki at:

<https://universalautomation.wiki>



Contribute on Github:

<https://jamiem.me/uaw-github>



Contact us:

[contact@universalautomation.wiki](mailto:contact@universalautomation.wiki)

# Questions

For any questions regarding the Universal Automation Wiki,  
contact Jamie Matthews.

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This project is being developed in QLab at Queen's University Belfast under the supervision of Dr. John Bustard.

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*Universal Automation Wiki*

# Thank you





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