

atturra

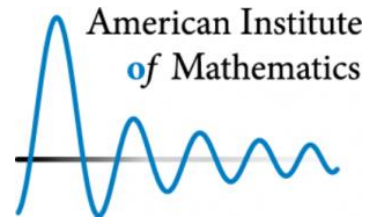
Integrating the Wolfram Language

Ben Odgers – 15 Aug 2024

Background & Context

My background

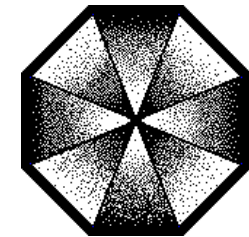
Academia



Banking



Consulting



Deep Industry Expertise



Defence

Largest sovereign publicly listed Advisory and IT Solutions provider to Defence with over 300 security cleared personnel and over 450 member organisations through its Industry Engagement business



Federal & State Government

Largest sovereign publicly listed Advisory, IT Services and Solutions provider to Federal Government



Financial Services

Atturra has unique IP with integration and data architectures building on multiple technologies to support the growth of finance, superannuation and banking clients



Utilities

Enable utilities to adapt to changing customer needs; reinvent and stay competitive



Manufacturing

Sole QAD partner in ANZ and Fiji and providing QAD first line support for all clients in this area



Local Government

Atturra is the only holistic services provider to Australia and New Zealand, with over 140 Local Government Authorities as clients



K-12 & Higher Education

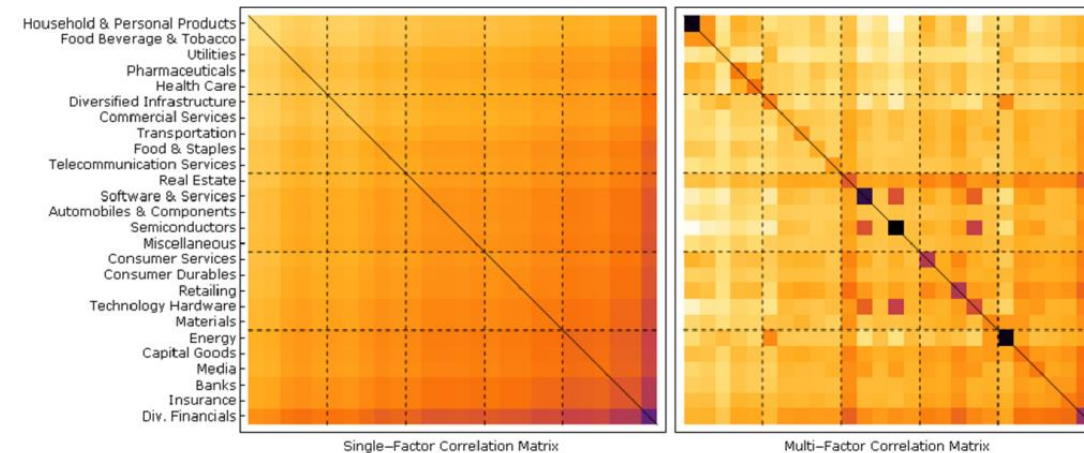
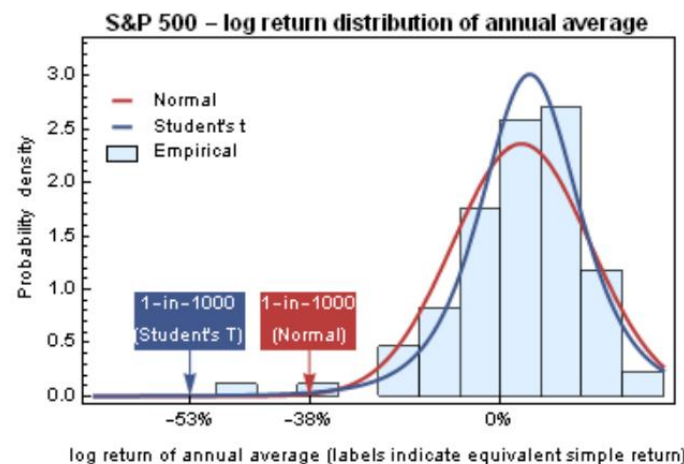
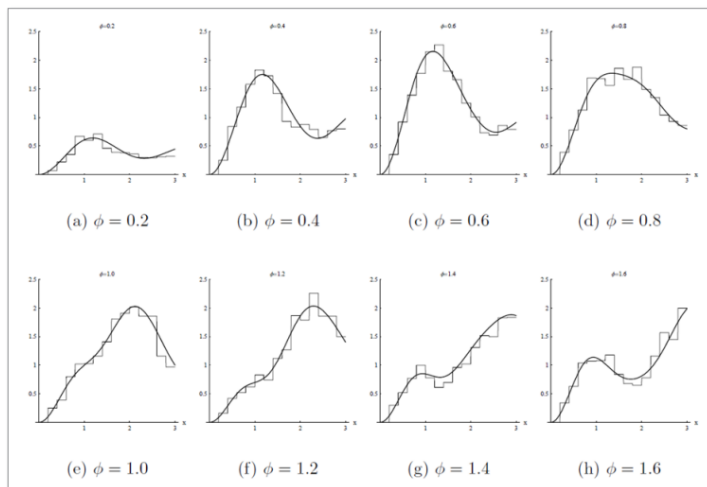
Leading trusted partner in K-12 Education with its end-to-end solutions delivered by industry practitioners

Why Wolfram/Mathematica?



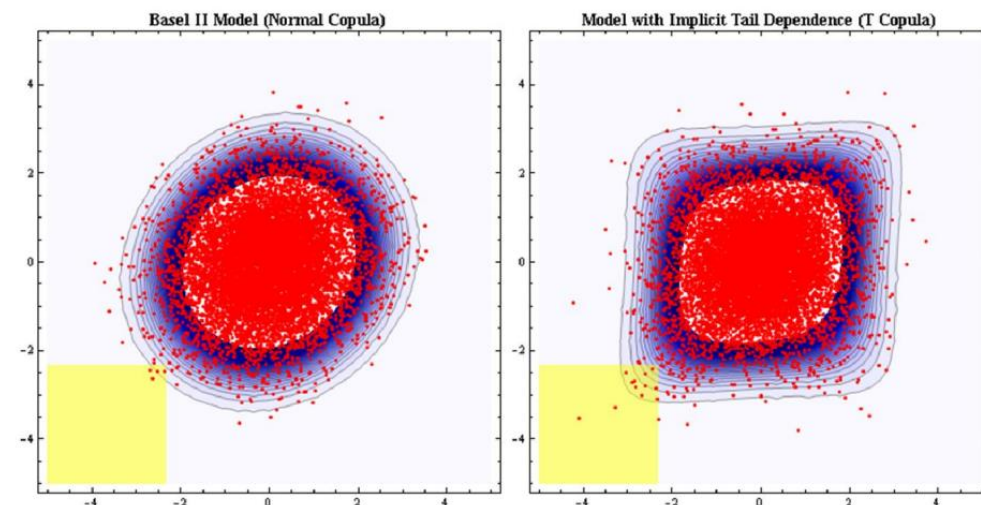
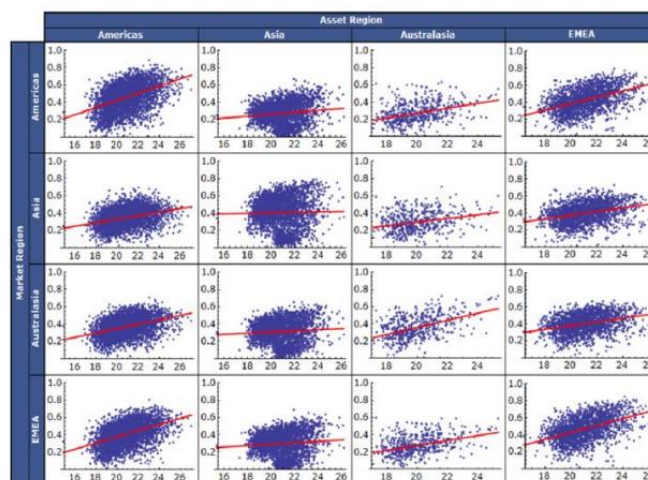
Standalone Mathematica Usage

Mathematical & Statistical Analysis



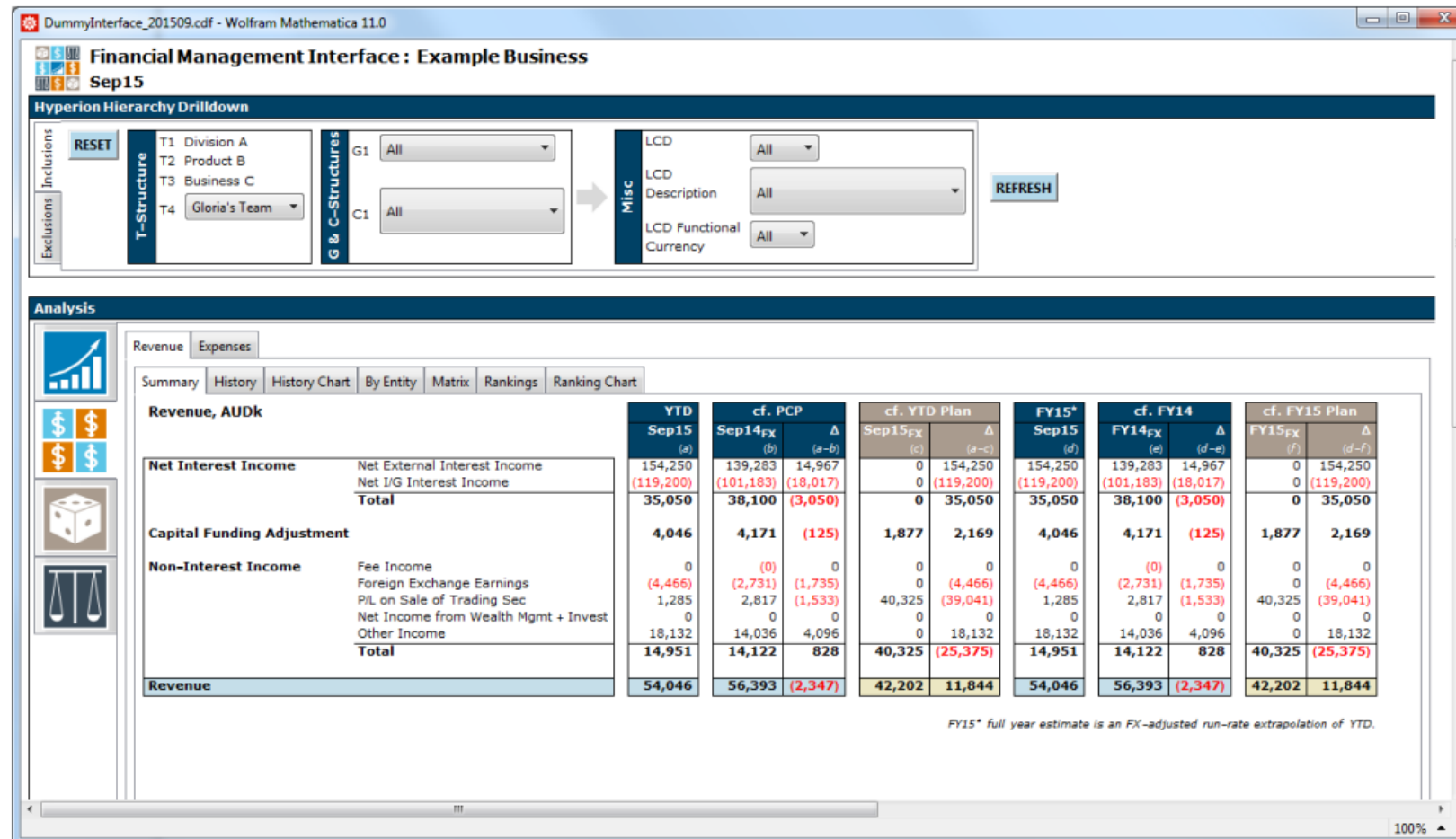
Examples:

- **Research** at Bristol Uni (above)
- **Risk Analytics** at Macquarie Group¹ (right)



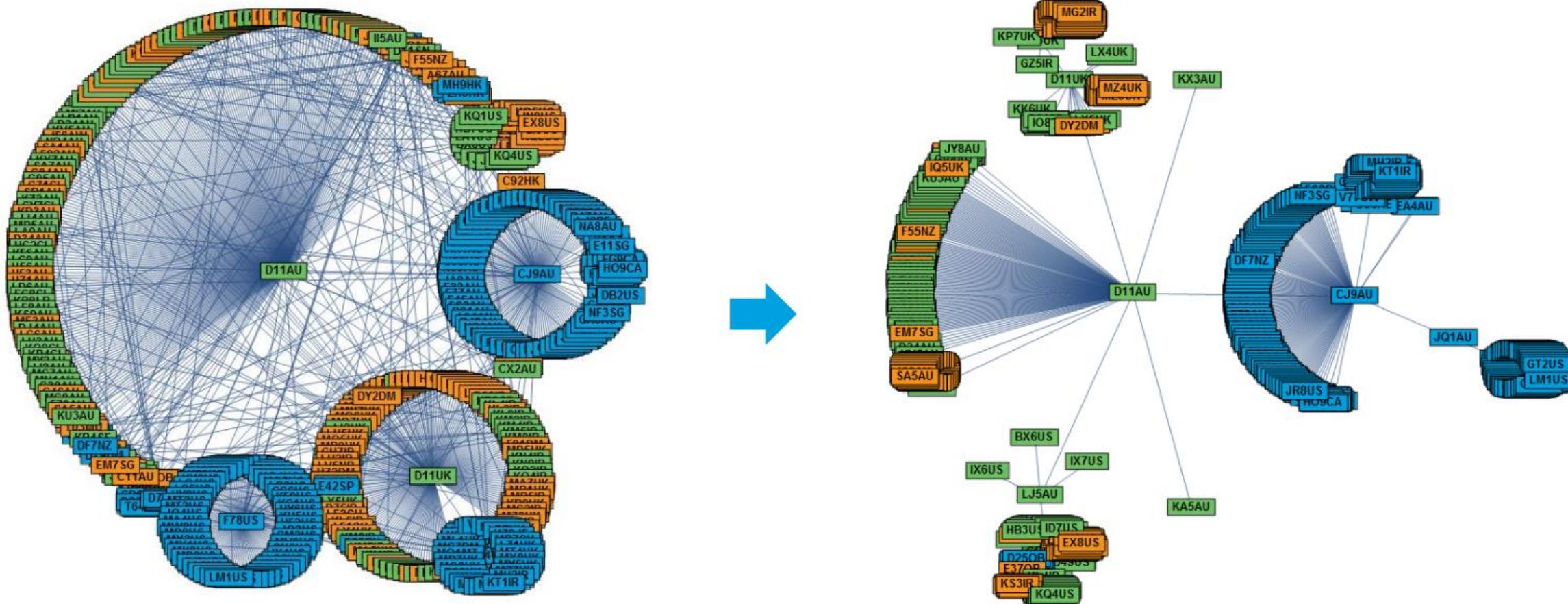
Greenfield Prototyping

- Example: **Financial Management Interface** at ANZ¹



Bespoke Visualisations

- Example: **Intragroup funding** at Macquarie Group¹



Integrated Wolfram Language Usage

Wolfram + Confluence

- Example: **Wiki knowledge management** at Macquarie Group and Evolve



API driven:

- Space and page creation
- Page update, labelling
- User access management

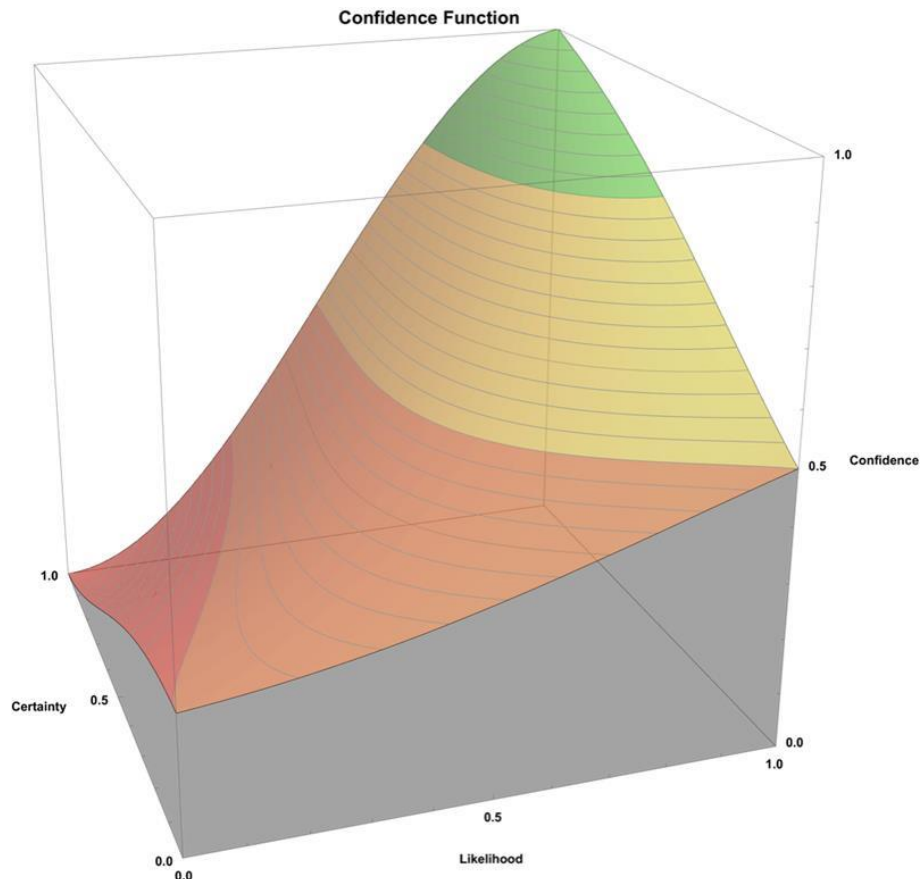
- API data extraction
- Tabular data
- Graph data
- Site monitoring



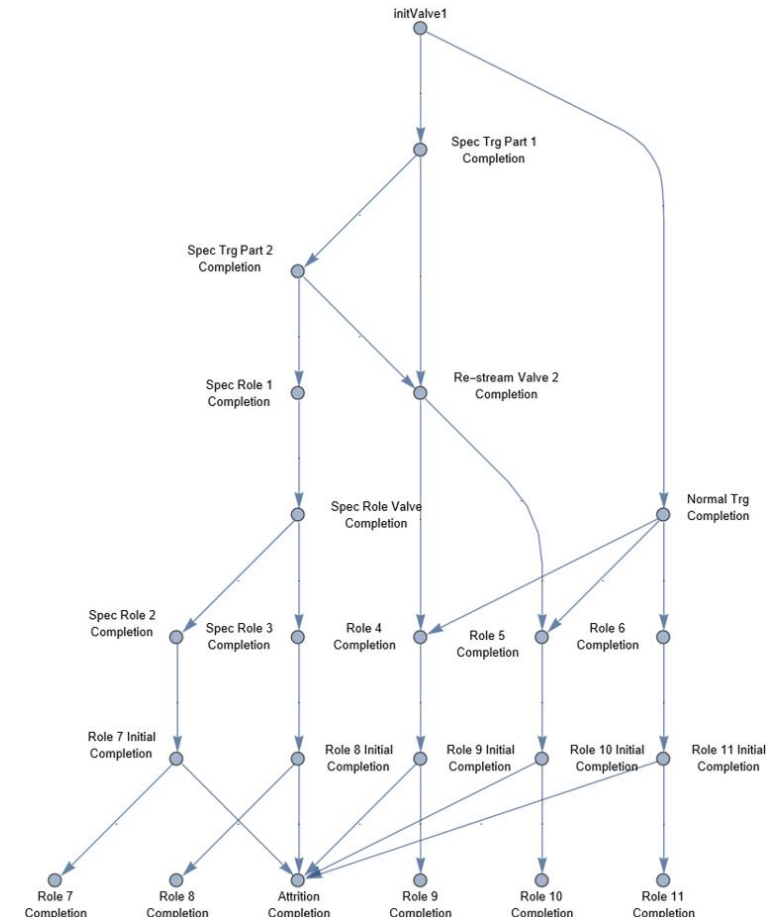
The Wolfram Language can play the role of a “meta macro”

Atturra applying new optimisation techniques to real world problems

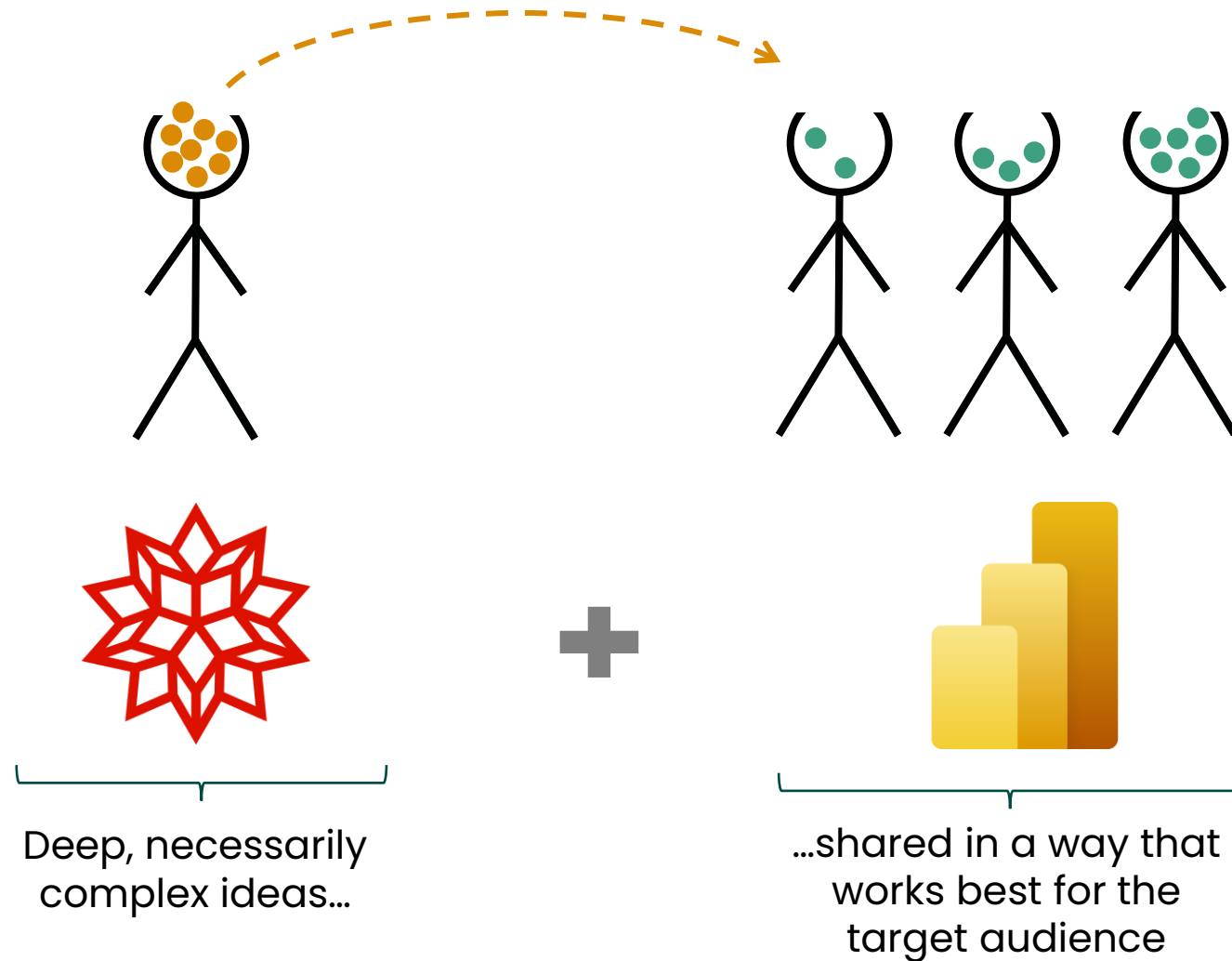
Decision making under uncertainty¹



Optimising training production throughput²

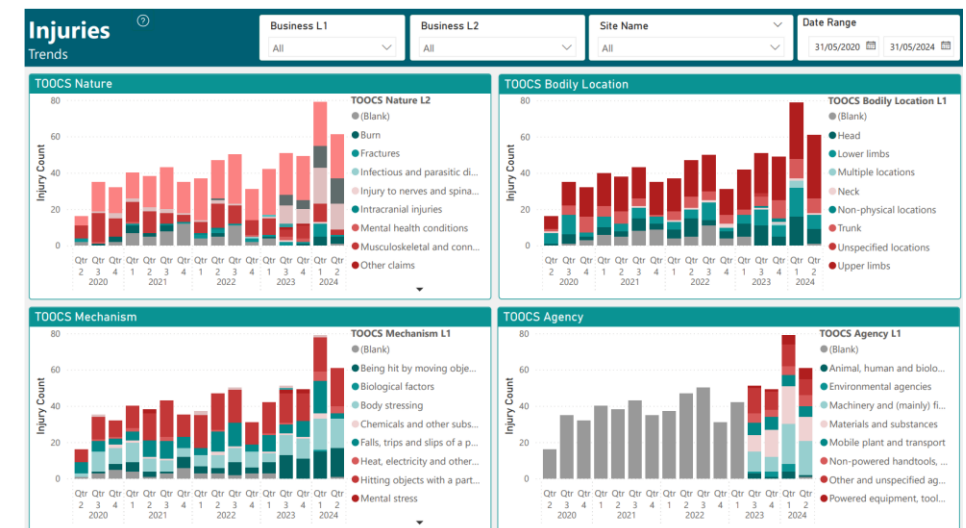
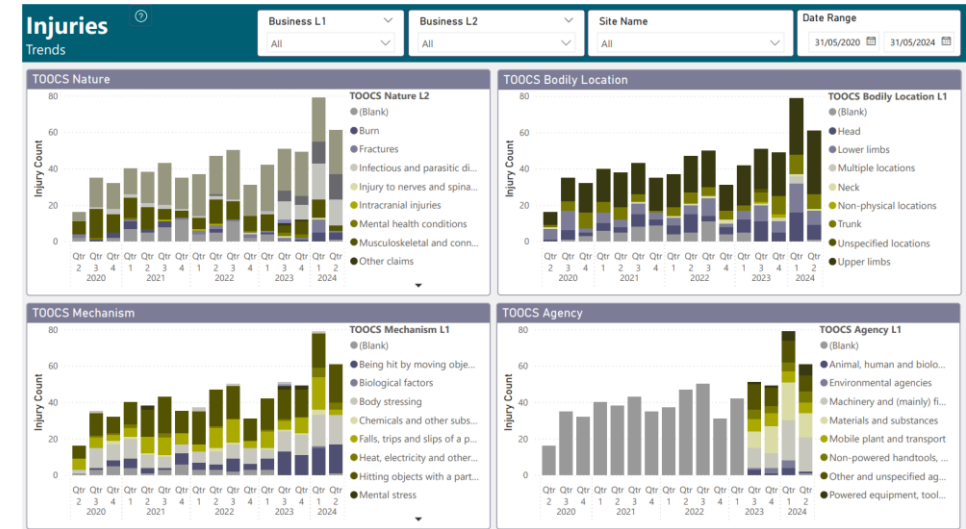
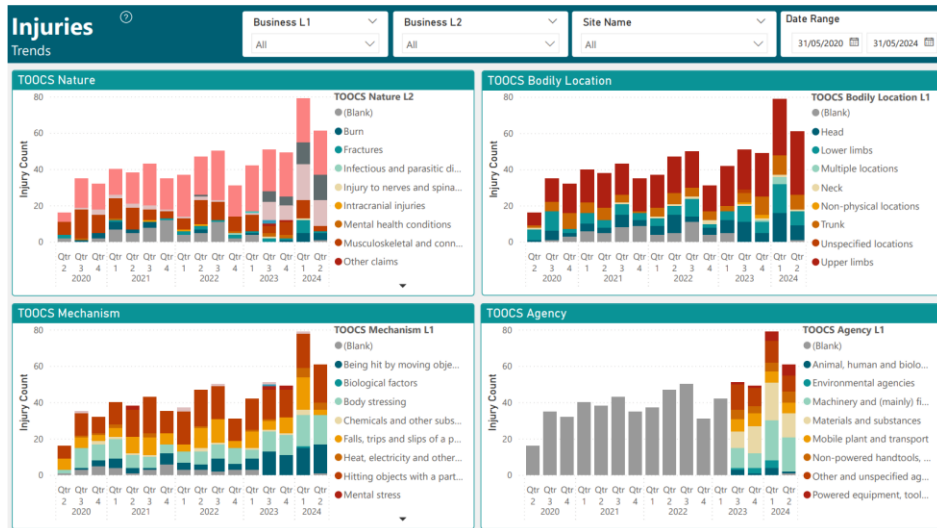


Wolfram + Power BI

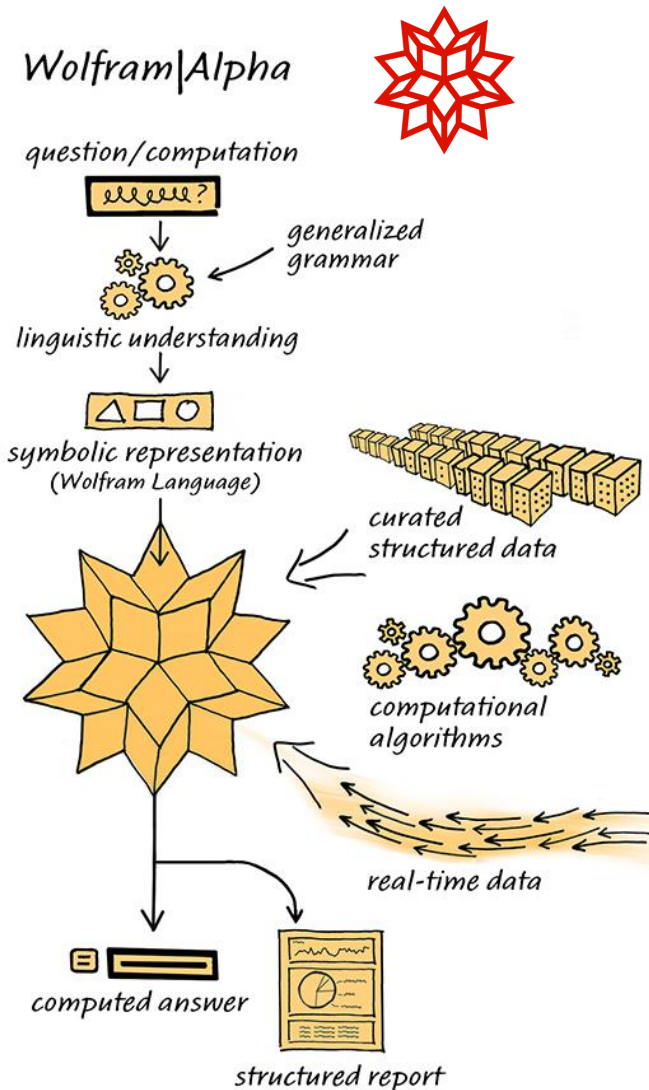
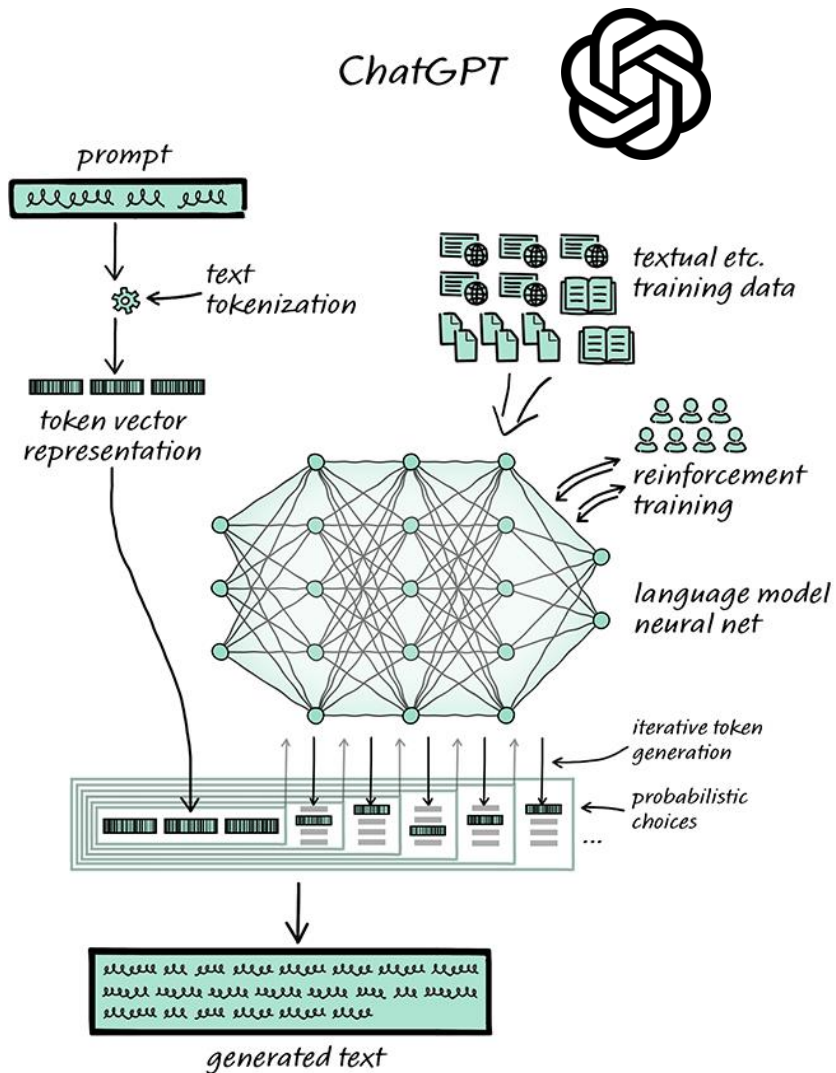


Wolfram + Power BI: on Colour Blindness

- Example: **Simulating the view of someone who is Color Blind**



LLMs + Wolfram = Computational answer engines



Data

- Trillions of data points from authoritative sources

Context

- Semantic contextualization

Algorithms

- World's largest collection of algorithms and transformation rules

HPE + Nvidia + Atturra + Wolfram

