



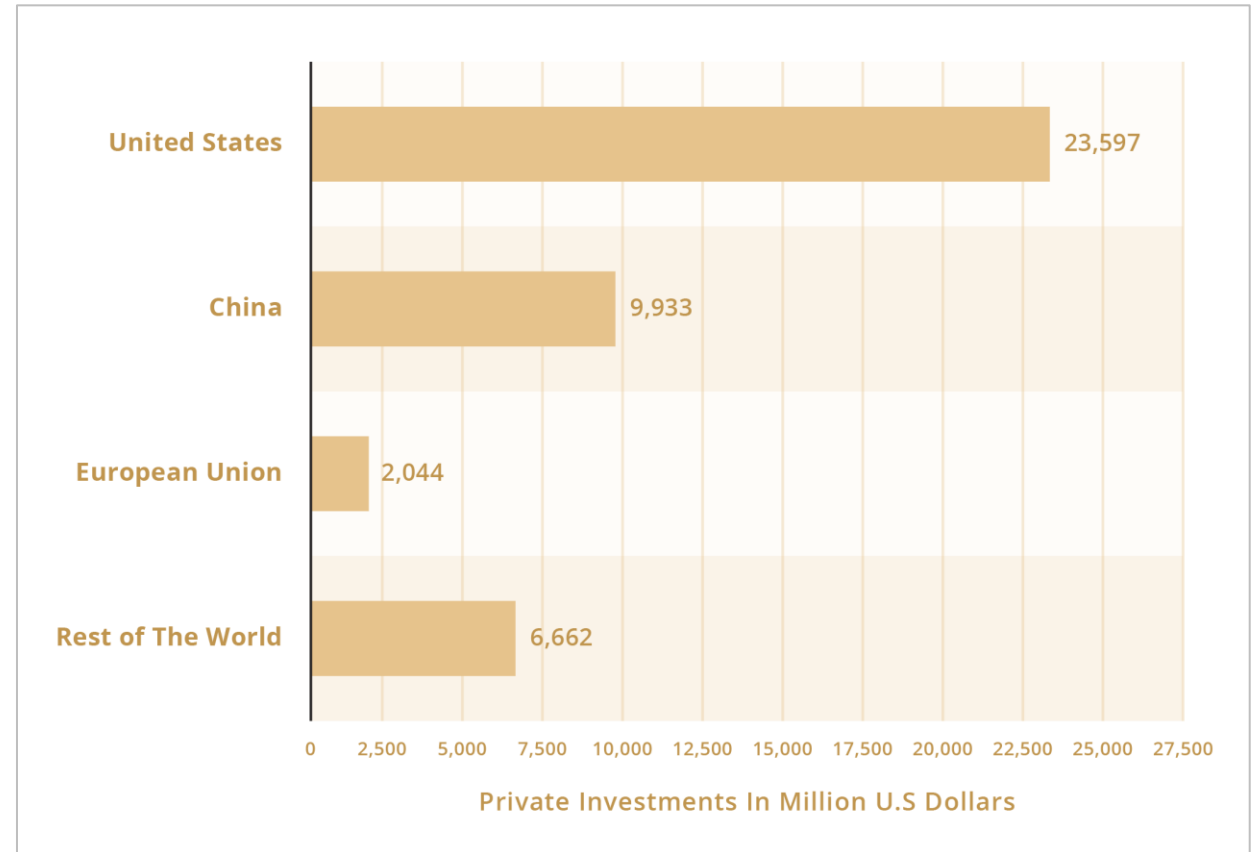
SEED FUNDING

October 01 2021

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ARTIFICIAL INTELLIGENCE INVESTMENT IS LARGE AND GROWING

\$23 Billion was invested in AI in the US in 2020, with other regions not far behind.

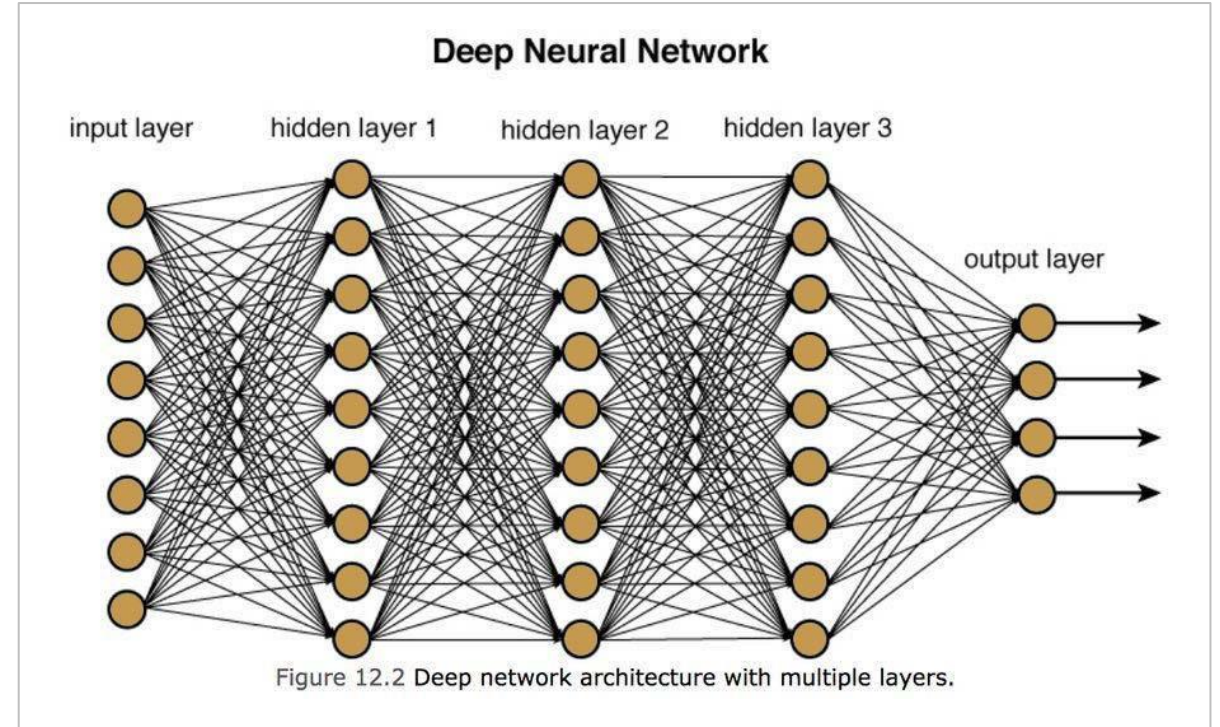


<https://www.statista.com/statistics/1226538/ai-private-investments-by-area/>

THE PROBLEMS WITH THE CURRENT REVOLUTION

Deep Neural Nets are:

- Black Boxes
- Do not offer reasons or explanations for the directives they offer their users
- This is the problem of Explainability



MANY THINGS HAVE BEEN TRIED TO SOLVE THIS PROBLEM

Some tactics are rather alarming, such as psychological tests.

Taylor, J. Eric T., and Graham W. Taylor. "**Artificial cognition: How experimental psychology can help generate explainable artificial intelligence.**"

Psychonomic Bulletin & Review (2020): 1-22.

Neugebauer, Simon, et al. "**Explainability of AI-predictions based on psychological profiling.**"

Procedia Computer Science 180 (2021): 1003-1012.

Techniques

Decision Trees

Rule Lists

LIME

Shapely Explanations

Saliency Map

Activation Maximization

Surrogate Models

Partial Dependence Plot (PDP)

Individual Conditional Expectation (ACE)

Rule Extraction

Decomposition

Model Distillation

Sensitive Analysis

Layer-wise Relevance Propagation (LRP)

Feature Importance

Prototype & Criticism

Counterfactuals Explanations

ADMINISTRATORS WILL EVENTUALLY REJECT ADOPTION

Decision making increasingly rests with Engineers with little domain knowledge.

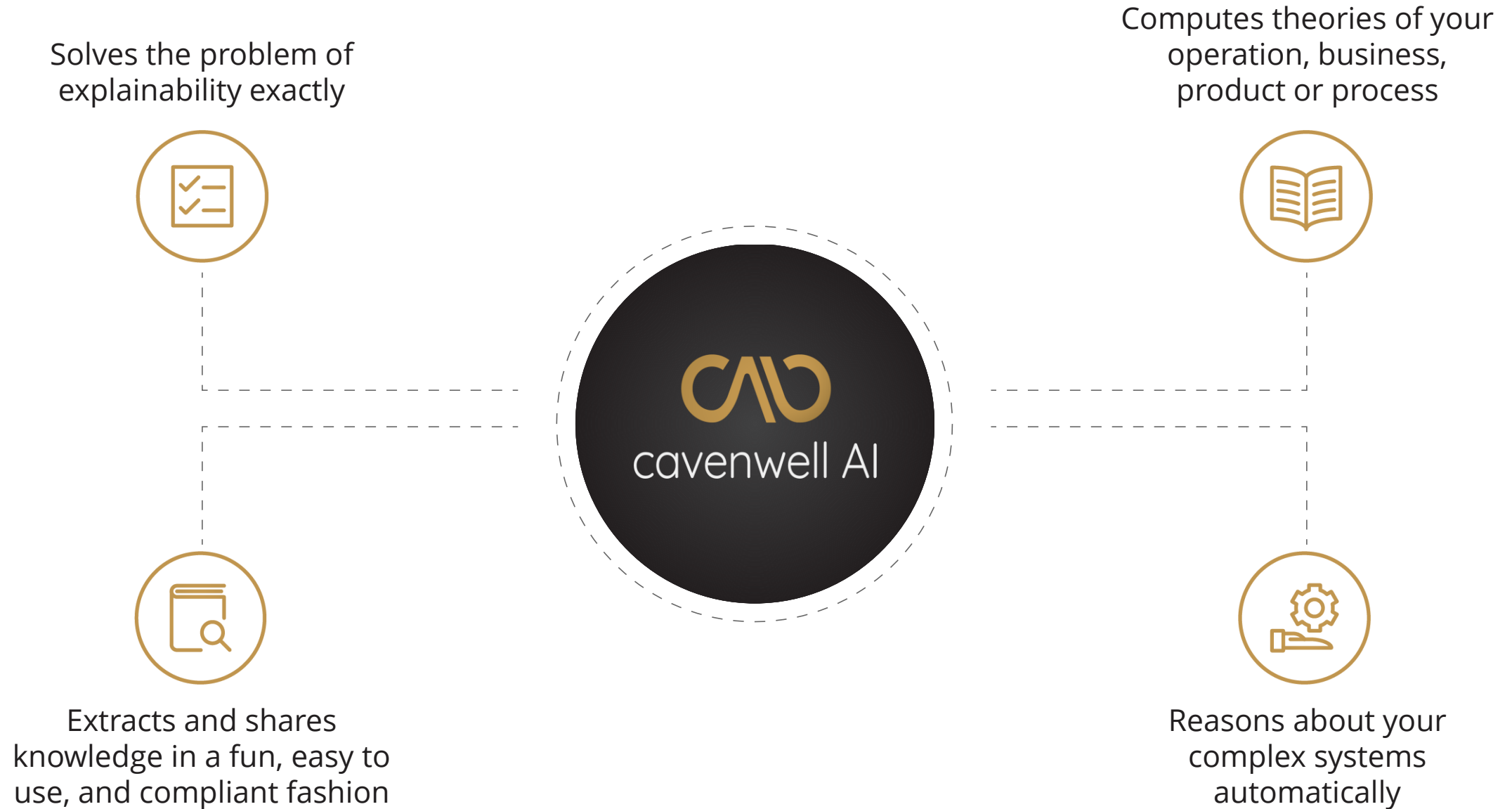
Brookings Institution (2020):

[In Current Explainability efforts]"...Two of the engineering objectives—ensuring efficacy and improving performance—appear to be the best represented...

...Other objectives, including **supporting user understanding**...are currently **neglected**."

<https://www.brookings.edu/techstream/explainability-wont-save-ai/>





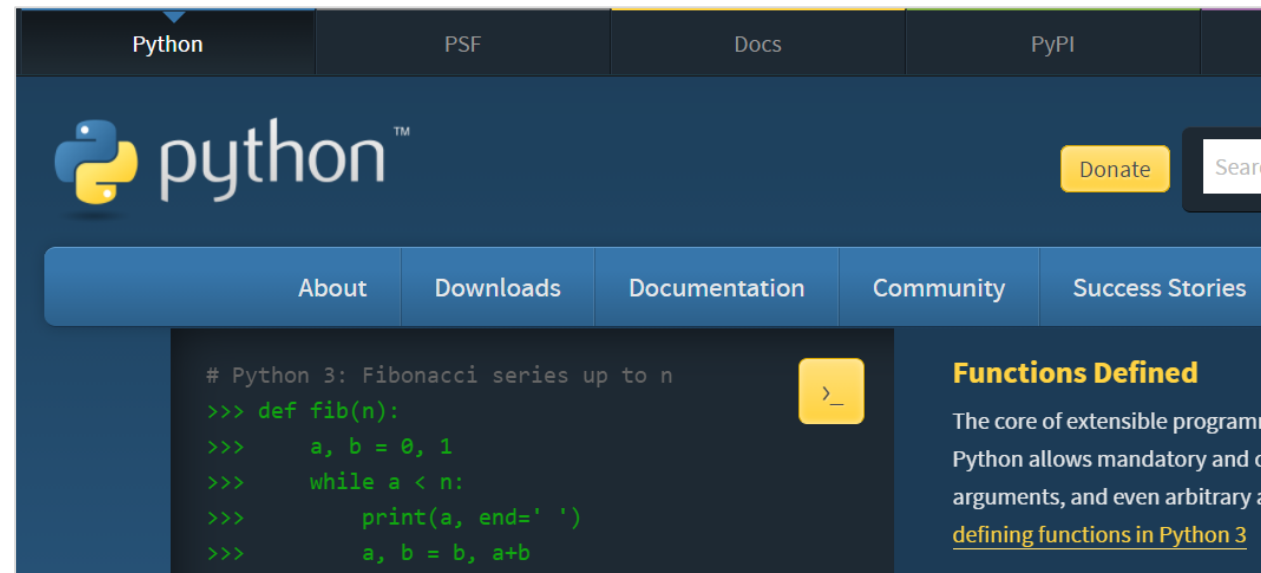
DISTRIBUTED ARCHITECTURE FOR FAST REGRESSION

The Cavenwell AI is ready to meet modern big-data requirements. It runs on Linux and has been Tested on a machine with 80 CPUs.

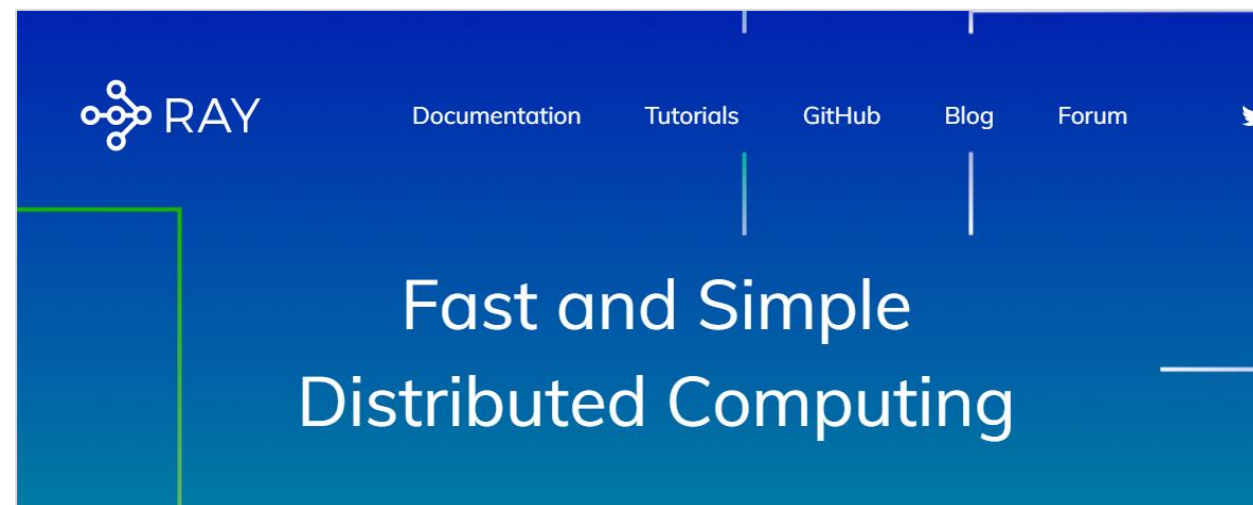


Google
Compute
Engine

Tailored HPC on Google Compute Engine



Written in Python



Can run on arbitrarily large clusters



CONSUMES DATA IN ROWS AND COLUMNS



Learns theories quickly from just CSV files
of rows and columns



600 Columns
3500 Rows

Regressed into a Theory in 15 minutes



Can regress theories over any
kind of data

INVOICE DETAIL - Notepad						
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CAVENWELL AI WILL HAVE A NATURAL LANGUAGE INTERFACE

The Cavenwell AI will have an intuitive graphical user interface, allowing for natural language input and good visualizations so that users can quickly and easily verify their hypotheses and get to their goals.



PREDICTIVE POWERS

The Cavenwell AI will guide users to their goals with predictive algorithms.

Automatic insights will be clear and powerful.

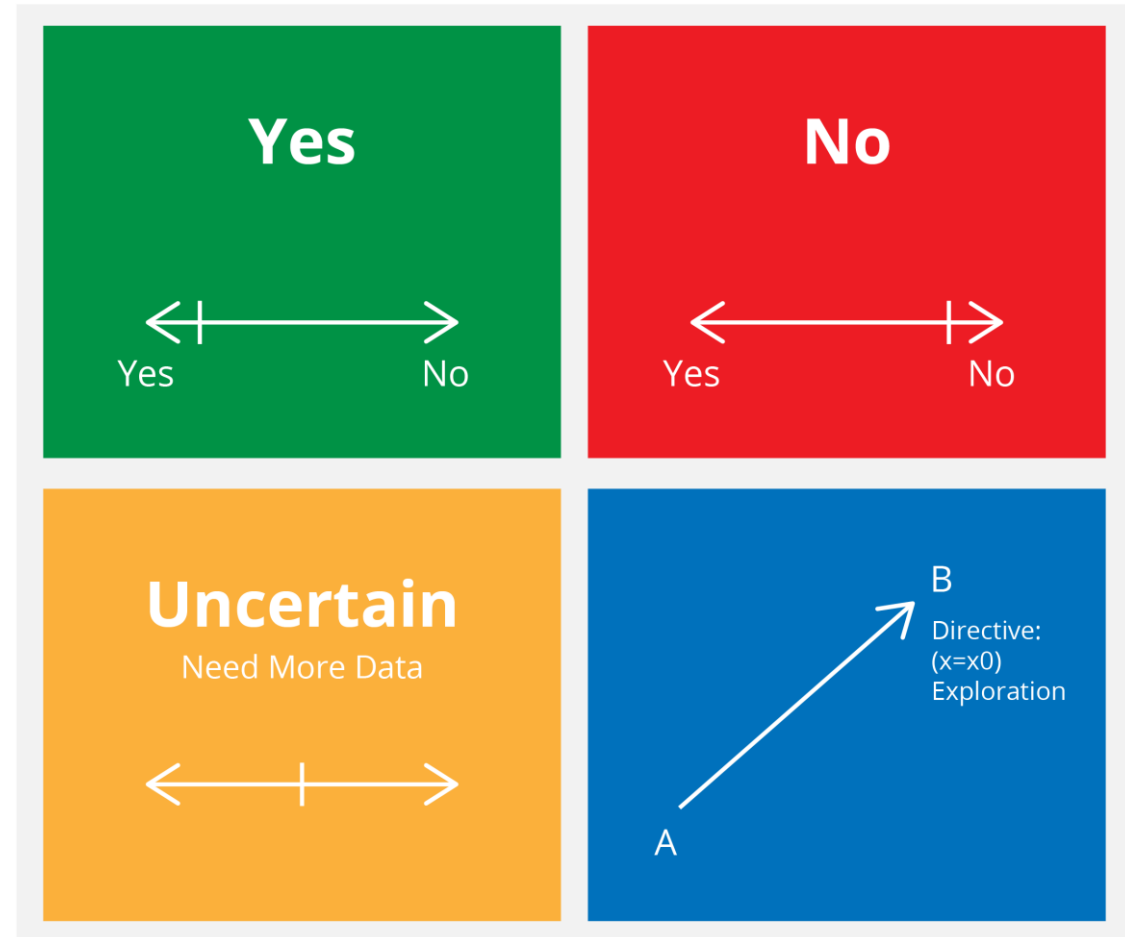
All directives will be fully explained.



THE INTERFACE WILL BE SIMPLE AND CLEAR, BUT ALSO POWERFUL

Users enter questions and goals about their business, operation, product or process.

The Cavenwell AI returns with graded answers that depend on the degree to which the data supports the result. If more data is needed, the AI tells the User where to look.

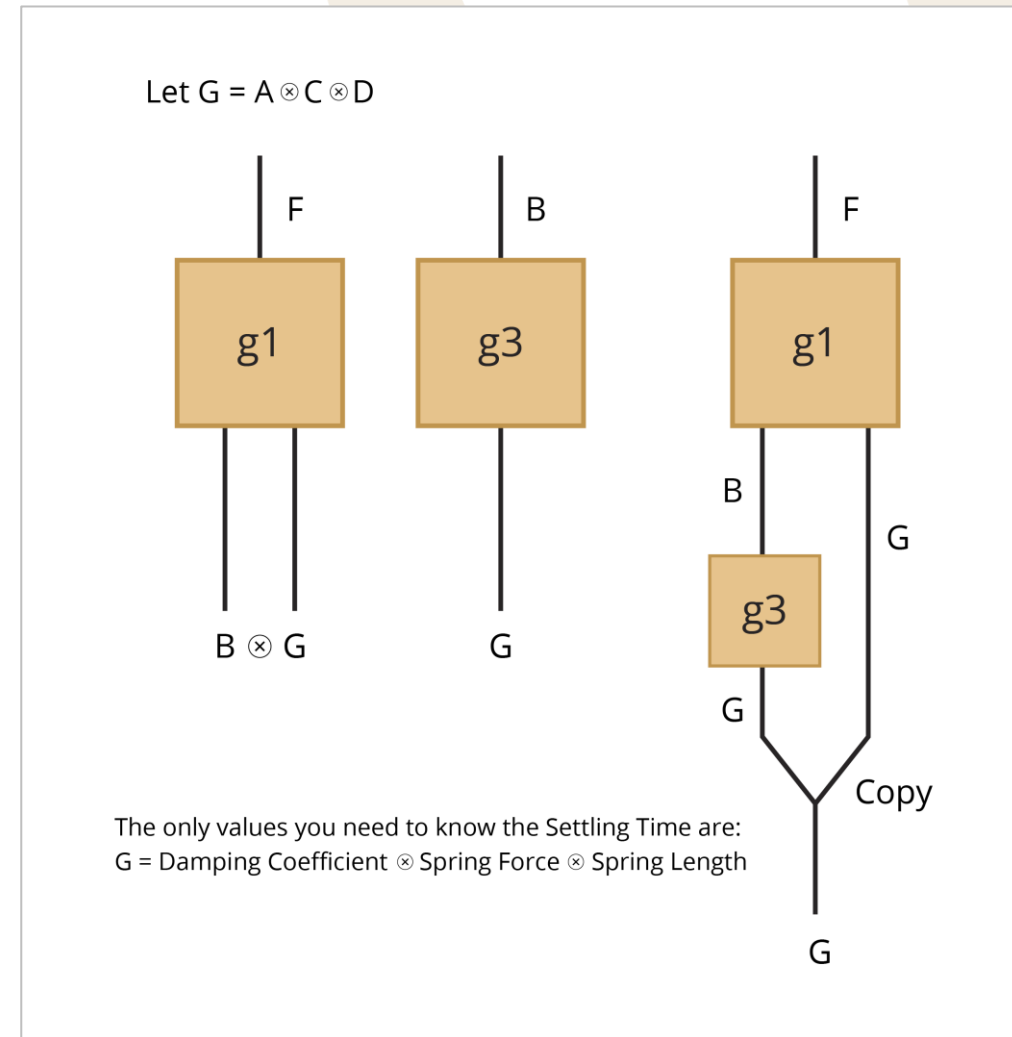


*Users enter goals
The AI returns with clear directives
Will provide powerful automatic insights*

RESULTS WILL COME WITH CLEAR EXPLANATIONS

All query results and directives are fully explained with calculations including easy to understand graphical calculus.

Standard ML pipeline blocks become explainable including feature selection and dimensionality reduction.

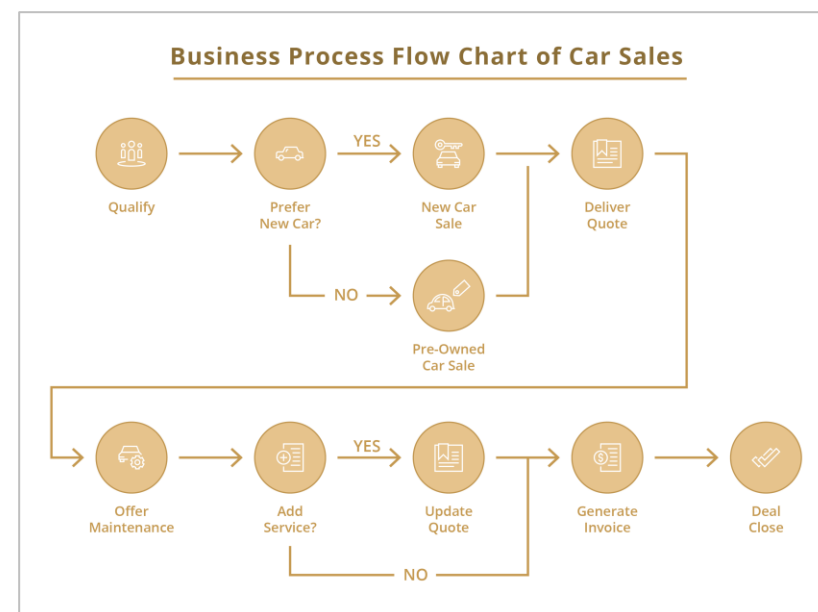


APPLIES TO ARBITRARY BUSINESS OR PRODUCT DATA AND PROCESSES

The Cavenwell AI will be useful in areas such as Business Strategy, Business and Product Processes, Healthcare, Operations Research and Engineering.



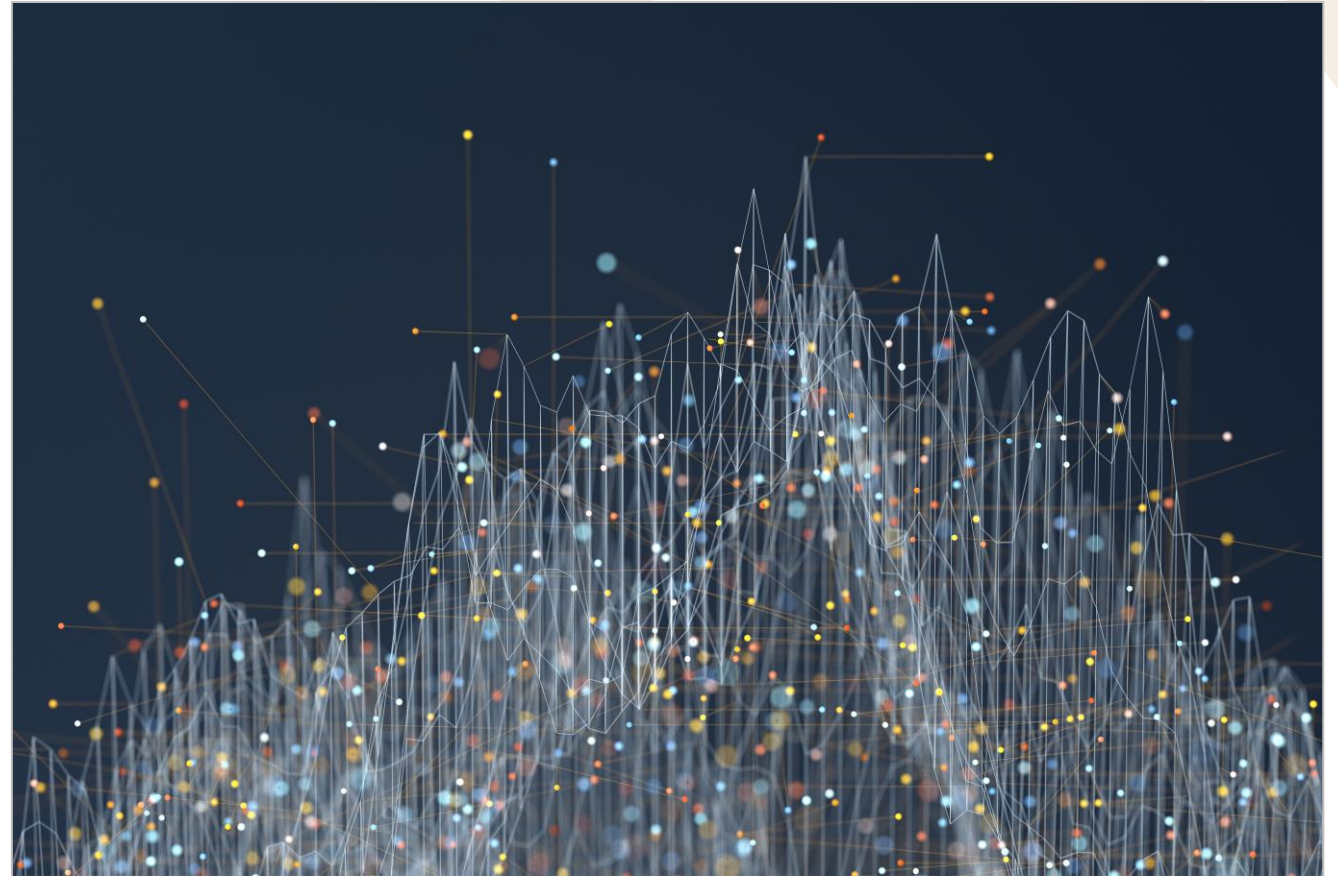
Operations Research



Business Processes

ORGANIZATIONS WILL NEED THE CAVENWELL AI

Data acquisition is going to become more ubiquitous and more voluminous. Organizations will need a software like The Cavenwell AI to reason about their business over this complex data and make sense of how to achieve their goals.



Data will become exponentially more complex

PARTNERSHIPS, COLLABORATIONS AND TRACTION



conexus

Partner Conexus.ai



CHEO

*Two Collaborations Underway
Clinical And Operations Research
Children's Hospital of Eastern Ontario*



shopify

Demo Request



TELFER

*Research Contracts Underway
Telfer School of Management*



The Ottawa
Hospital

*In Talks for
Collaboration*



Teck

Demo Request

ABOUT OUR COMPANY

- Cavenwell Industrial AI is an early stage start-up seeking to provide AI based business solutions.
- Ben Sprott is the Founder, CEO and Architect
 - *Ben holds MSc degrees in Physics and Computer Science from Waterloo and McGill. During this time, he worked with some of the world's greatest Scientists.*
 - *Ben was once a member of the world's most advanced Physics Research Institute, The Perimeter Institute.*
 - *He has many years of experience as a Senior Engineer, Developer, Automation Specialist and Industrial Researcher.*



COMPETITION

- IBM
- Google
- Sparkcognition
- DataRobot

The Cavenwell AI is going to excel via its ability to automatically develop a science around users' Organization, Product, Process or System. It welcomes traditional Decision-Makers to discover, verify and achieve, better representing their desires and empowering them to adopt with confidence. This will reduce their reliance on Engineers with little domain expertise and will make for stronger organizations.

We are only one month away from submitting the patent for our core AI. It will be broad and will position us to be wholly distinguished in the AI marketplace.



BIG PLANS FOR THE FUNDS RAISED

We are interested in raising between \$500,000 and \$3,000,000.

Hiring: full stack developer, marketing and sales expert, two Computer Scientists with PhD.

Within 12 months, we plan to have a fully functioning application that can be installed by any company or organization. We believe that with this infrastructure, and our experience gained during our CHEO collaboration, we will be able to start generating significant revenue from Hospitals, Insurance Companies and Manufacturers.



THANK YOU!

For any questions, please contact our CEO



Ben Sprott
ben@cavenwell.ai



Look us up at:
Cavenwell.ai

