

Building the Enterprise of Tomorrow with **Real World AI**



Elliott Krohnke

Head of Business Development,
Northeast



AI



Zeitgeist



November 30, 2022

?

ChatGPT Sprints to One Million Users

Time it took for selected online services to reach one million users



* one million backers ** one million nights booked *** one million downloads
Source: Company announcements via Business Insider/LinkedIn



statista



I run a newsletter that teaches people how to make money writing about tech. Give me 5 short potential headlines.



1. "Unlock the Secrets to Making Money Writing About Tech"
2. "From Zero to Tech Writing Pro: A Step-by-Step Guide"
3. "Tech Writing for Profit: How to Turn Your Passion into a Career"
4. "The Tech Writing Blueprint: How to Build a Sustainable Writing Business"
5. "The Tech Writing Industry: Opportunities and Insider Tips for Success"



Great! Now give me 5 potential taglines.



1. "Earning a living from the tech world, one word at a time."
2. "Get paid for your tech knowledge and writing skills"
3. "Building a profitable career in the ever-growing tech industry"
4. "Write about tech and make money doing what you love"
5. "Transforming tech enthusiasts into successful freelance writers"



And 5 call to actions?



1. "Sign up for our newsletter now to start making money writing about tech!"
2. "Learn the secrets to a successful tech writing career. Join our community today!"
3. "Don't miss out on the opportunity to turn your tech passion into a profitable career. Subscribe now!"
4. "Ready to turn your tech writing hobby into a full-time job? Join our program now!"
5. "Get the insider tips and resources you need to succeed in the tech writing industry. Sign up today!"



“ AI will be more profound than **fire**
and **electricity** ”

- Sundar Pichai

Those **who fail** to embrace AI
soon will be...



DISRUPTED

Those who don't
embrace AI now

Those who **embrace AI** now will be the...

DISRUPTORS

{REAL WORLD AI}



innovation done right

DISRUPTED

Which side are
You going to be on?



DISRUPTORS

innovation done right



Here's an **interesting statistic**



Currently, **91%** of enterprises are investing in AI





But, only **26%** have deployed projects
into production



And the majority of the **26%** aren't
producing the expected ROI

How can businesses
make their leap to Real World AI?

Luv Tulsidas

Founder & CEO

{↗} **techolution**
Innovation done right



Display

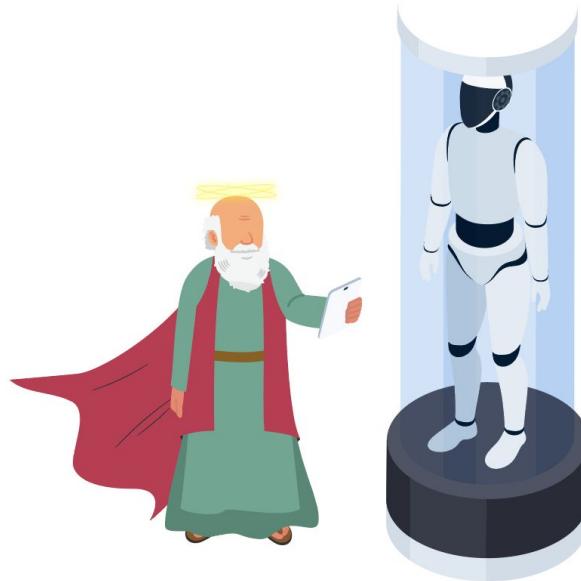


I am really **concerned** about

the **current state of**

the **AI industry**

Lab AI = No ROI



Promise of AI is ROI Multiplier for Business

Once more,

Even the **best** AI today is a

useful assistant

at best

Why is AI stuck in the lab?

AI Breakthrough Contributors



Neural Networks,

Deep learning,

Unsupervised Learning

Supervised Learning

Statistical AI

Data Scientists

ML engineers



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Neural Networks
Deep learning,
Unsupervised Learning

Supervised Learning
Statistical AI
Data Scientists
ML engineers

Are these enough to get us here?

Profit Boom



innovation done right

How do you Leap your AI from the Lab to
win big the **Real World** of business ?

The secret ingredient

R&D Expense (Loss) Money Losing AI

vs

Profit Boom Competent AI

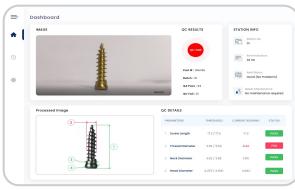


My journey from there to here...

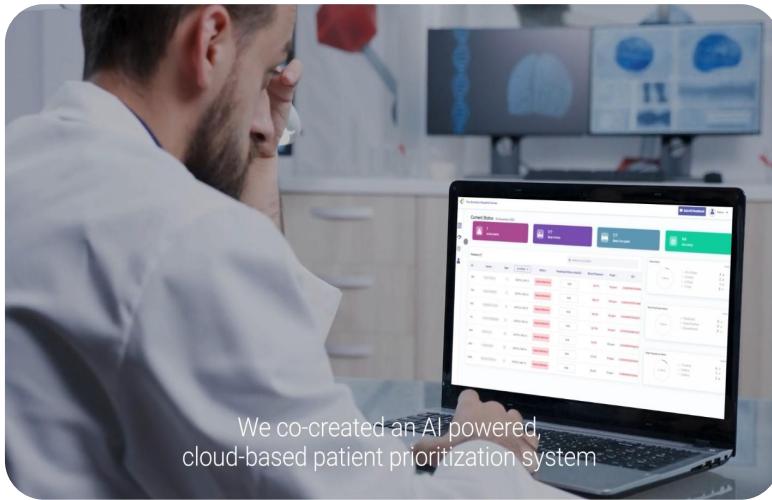


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Healthcare



A million more...



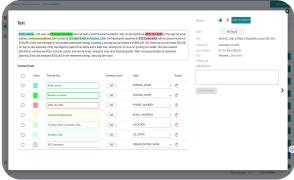
During the Pandemic, we co-created with a large hospital here in NYC co-create, the first of its kind

AI Patient Prioritization system

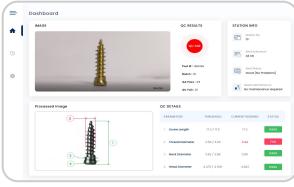
The system told the nurses which patient to see next, based on AI predicted patient risks to save more lives and reduce stress on the medical staff...



Finance



We co-created AI-powered
cloud-based patient prioritization system



A million
more...

Actions: ADD TO COPY

Label: PL_FALSE

Tag: INVOICE_LINE_EXTRACT_Row695.ColumnTEP.SHL

Created On: November 1st 2022

Last Modified: 01-11-2022 19:51:42

Filename: ...show more

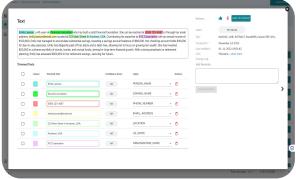
Change Log:

Add Remarks:

SAVE REMARKS

Then, We helped a financial services company improve their Data Governance by building a custom AI powered...

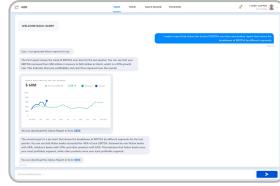
Data Loss Prevention Solution



Manufacturing

The dashboard shows a processed image of a screw with measurement points labeled 1 through 4. Below the image is a table of QC details:

PARAMETERS	THRESHOLD	CURRENT READING	STATUS
1 Screw Length	17.2 / 17.5	17.3	PASS
2 Thread Diameter	3.55 / 3.60	3.44	FAIL
3 Neck Diameter	3.82 / 3.88	3.85	PASS
4 Head Diameter	4.475 / 4.500	4.482	PASS



A million more...

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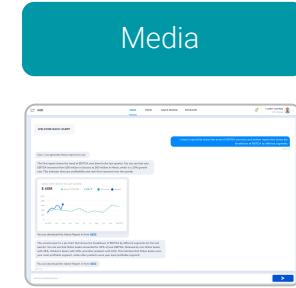
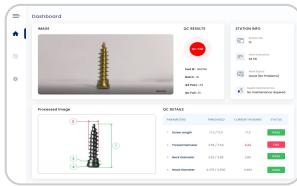
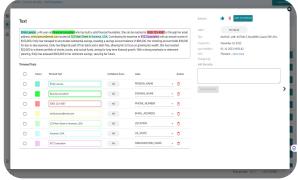
With our secret ingredient we were able to help a life sciences company scale the production output of life saving medical product with a turn key

Autonomous Quality Control Solution

The client gave up on autonomous Quality control because they couldn't find any AI computer vision solution that could handle high precision regulated products. We not only solve this problem but we increased their QC throughput by 18x



We co-created AI-powered
cloud-based pattern recognition system



Media



A million
more...

WELCOME BACK HARRY

I need a report that shows the trend of EBITDA over time and another report that shows the breakdown of EBITDA by different segments

Sure, I can generate those reports for you

The first report shows the trend of EBITDA over time for the last quarter. You can see that your EBITDA increased from \$50 million in January to \$60 million in March, which is a 20% growth rate. This indicates that your profitability and cash flow improved over the quarter

EBITDA OVER TIME FOR THE LAST QUARTER

\$ 60M ▲ From \$ 52.02M 2.3% ↑ Forecast ● Actual

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan

You can download the Above Report in from [HERE](#)

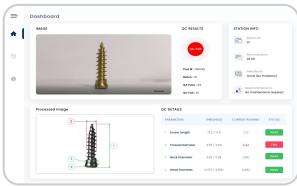
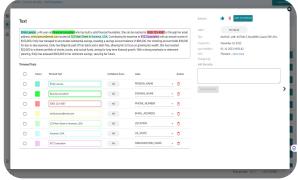
The second report is a pie chart that shows the breakdown of EBITDA by different segments for the last quarter. You can see that fiction books accounted for 40% of your EBITDA, followed by non-fiction books with 30%, children's books with 20%, and other products with 10%. This indicates that fiction books were your most profitable segment, while other products were your least profitable segment.

You can download the Above Report in from [HERE](#)

Ask me anything here....

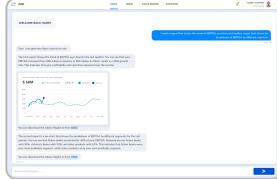
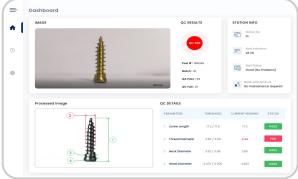
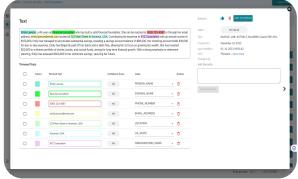
We helped media clients improve their content creation and distribution with

Proprietary Content GPT AI



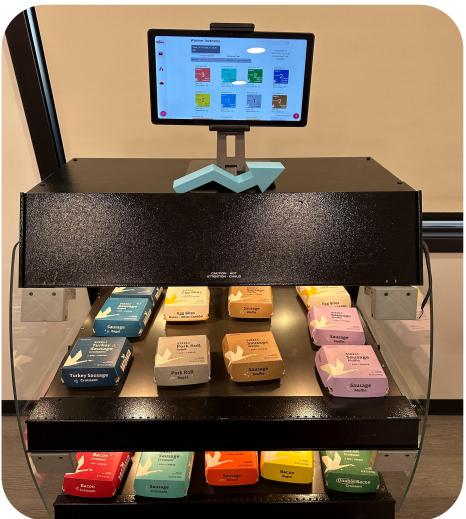
A million more...

The most important success story that led to our breakthrough with AI...



Retail

A million more...

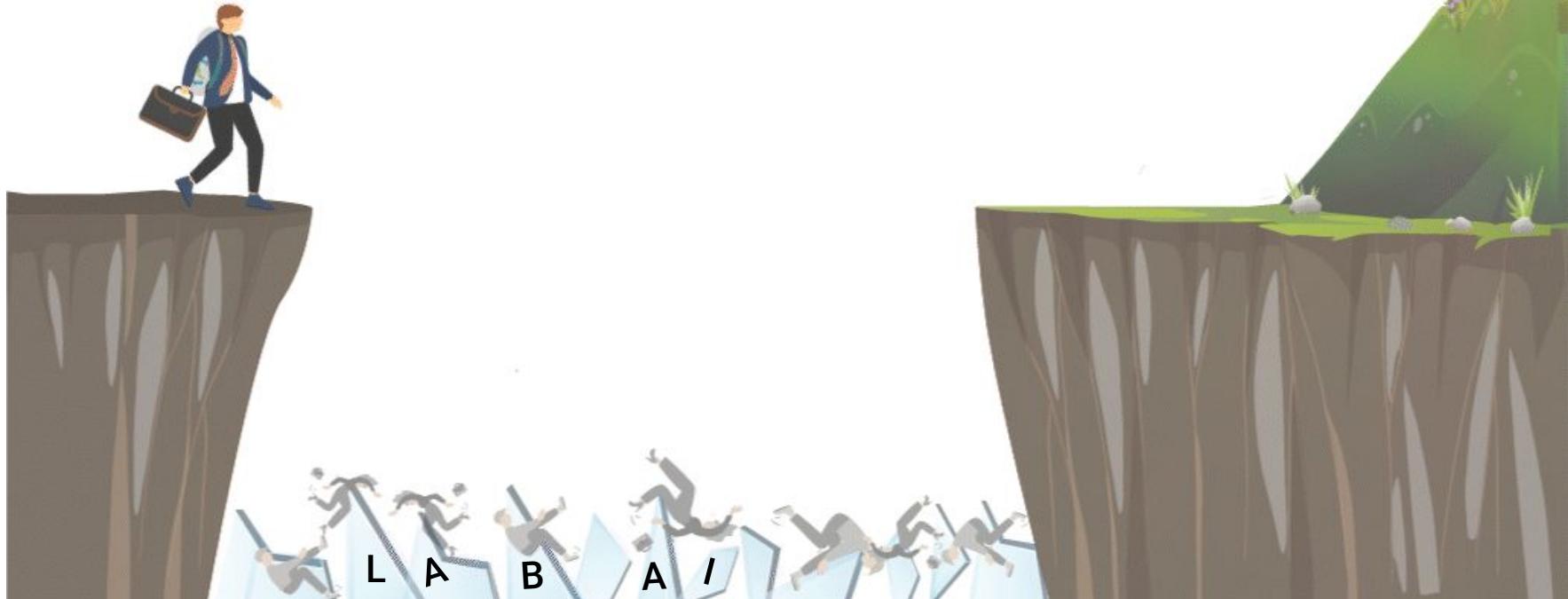


In collaboration with Google we helped a large retail chain of convenience stores, to be specific, solve massive labor and material inflation costs by building an...

Autonomous Inventory and Forecasting AI



But it wasn't always like that...



L A B A /

My first journey with AI began back in

2018



Moonshot

Novel idea to

Entrepreneurial Hall of Fame

Billion \$ club

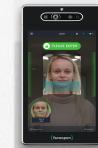
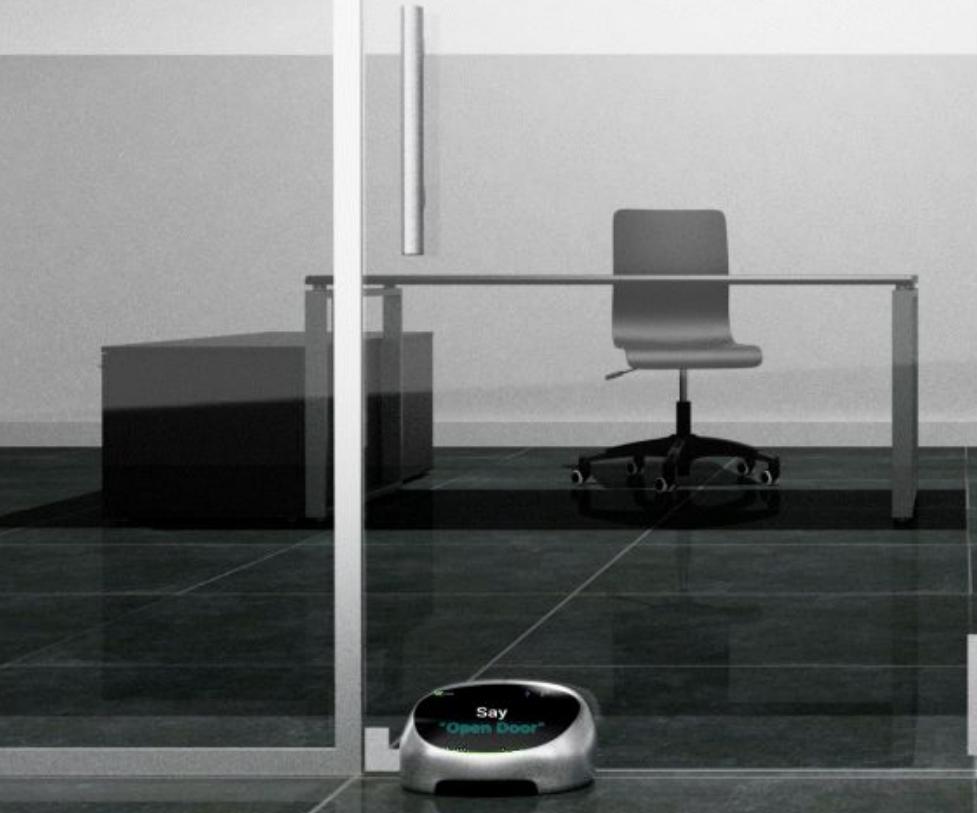


AI = Software Development ?

Fast forward to **2020**...

COVID was spreading around this time.

*So the timing for our touch free product **was** perfect.*





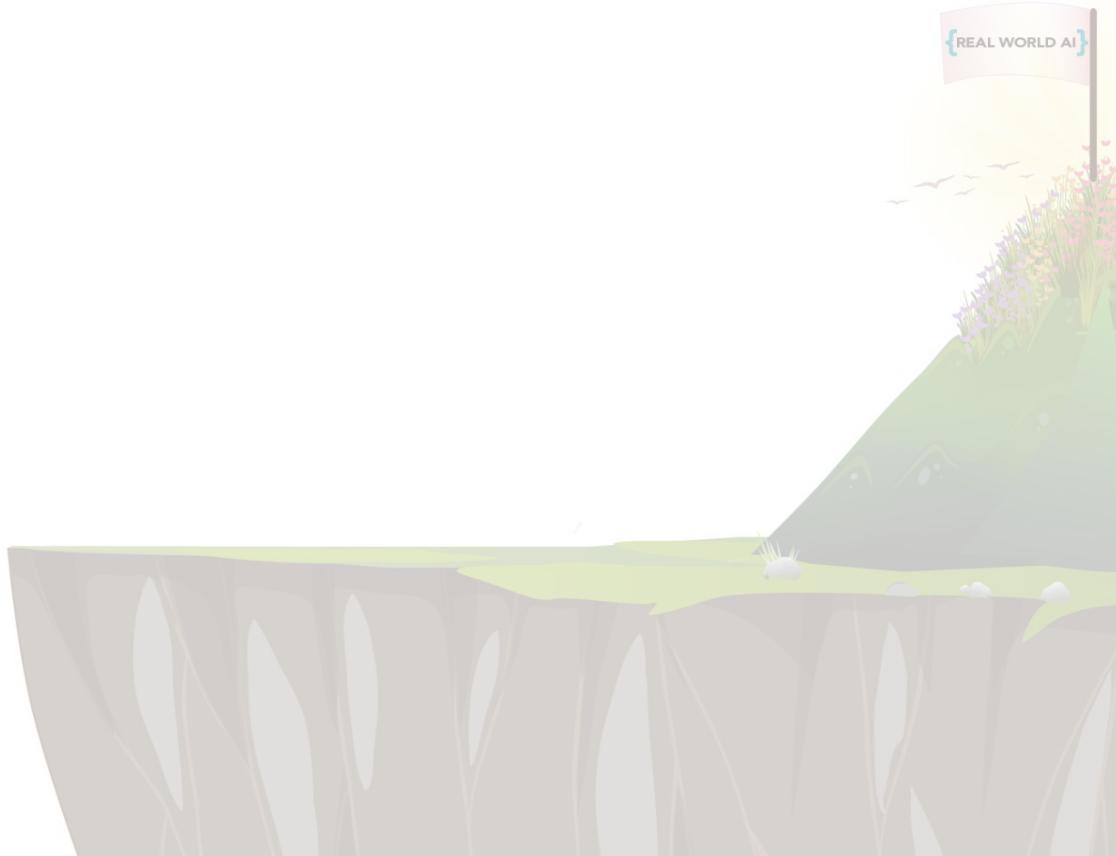
AI Nightmare



ML Engineer



Data Scientist



AI Looks Promising Again

{REAL WORLD AI}



L A B A I

A year later

&

Millions of dollars later...

Angry Customers



It was time to roll up my sleeves
and take on my next...

MISSION IMPOSSIBLE



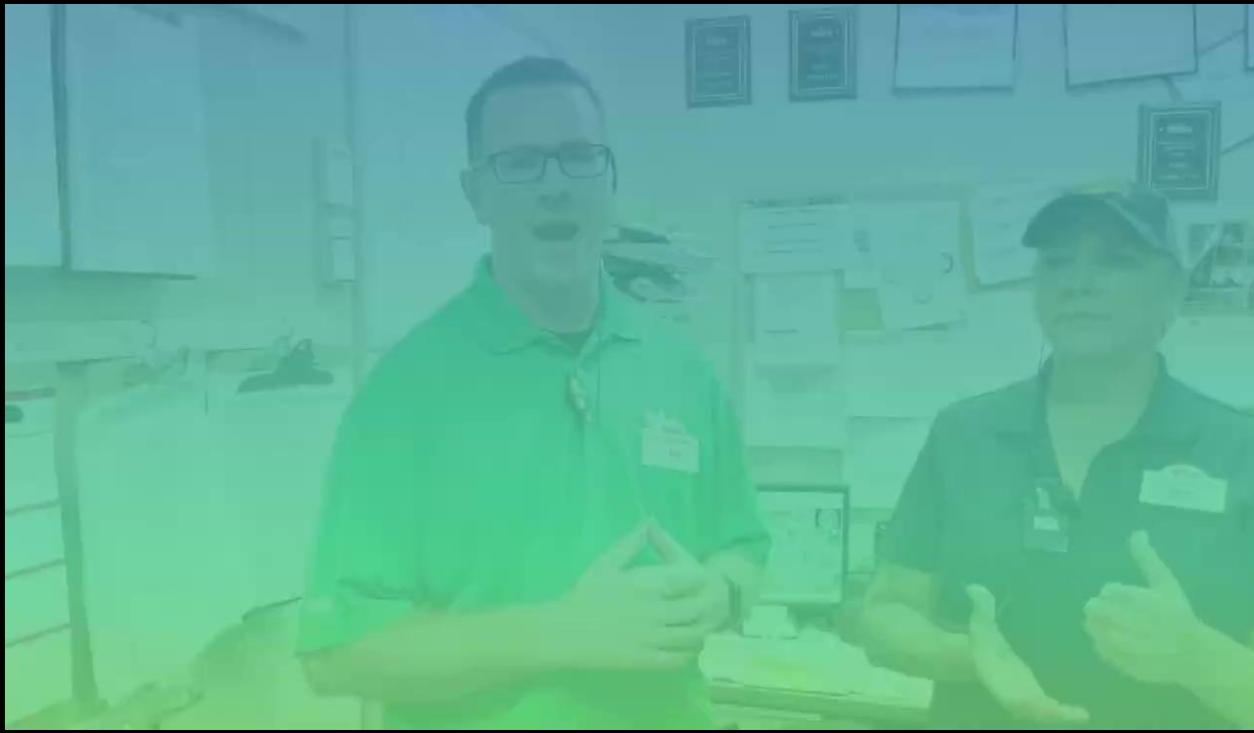
Large Retail **Success Story**



Remember the large convenience store chain?

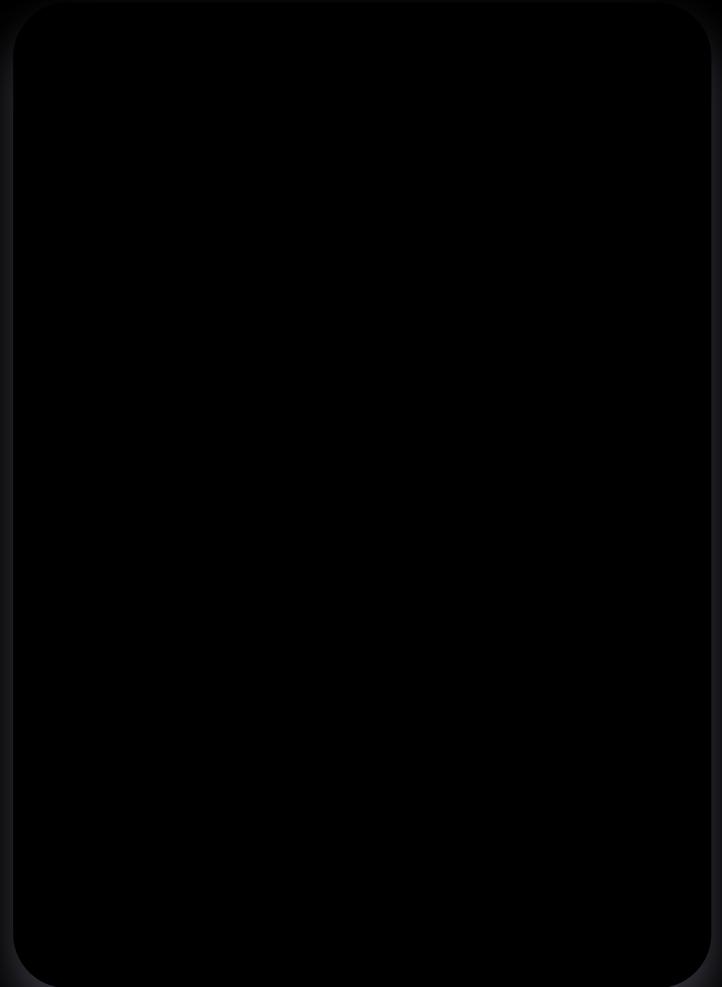
Real Time Inventory and Forecasting AI

Our Autonomous Computer Vision AI Solution delivered 70% in waste reduction with a sales bump of 3% when they needed it the most to counter the uncontrollable food and labor inflation



What about the doorbot?

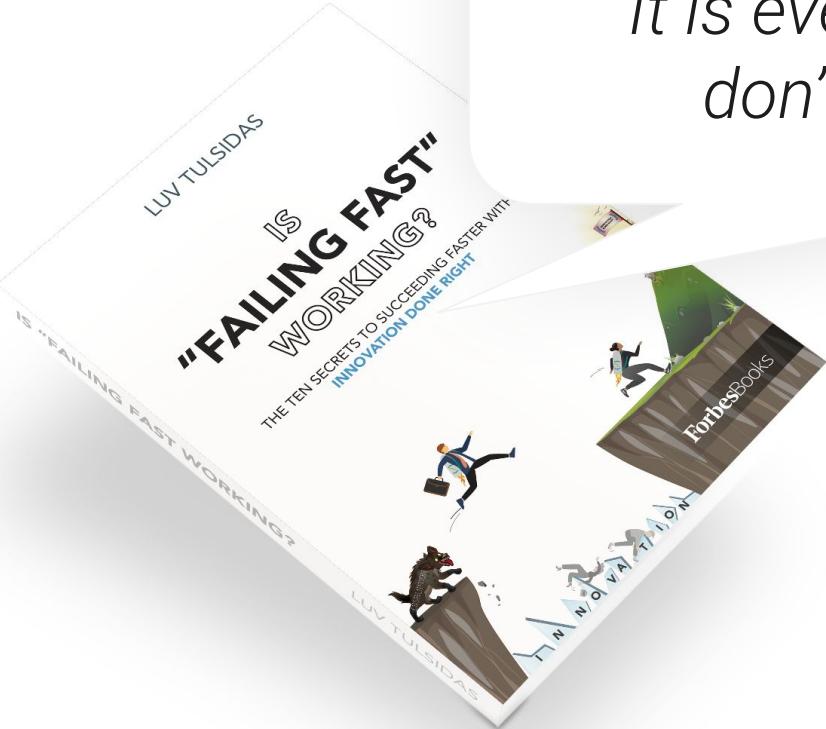
First Customer Testimonial



Journey through Failures & Pain



Failing is painful. But,
It is even more painful when you
don't learn & evolve from it.



LUV TULSIDAS

IS “FAILING FAST” WORKING?

THE TEN SECRETS TO SUCCEEDING FASTER WITH
INNOVATION DONE RIGHT



IS “FAILING FAST WORKING?

LUV TULSIDAS

5 Important **Lessons** about **AI**

to

Leap from Lab grade AI to Real World AI

Lesson Learned #1



There is **more** hype
around AI than reality

Experience is the best **Teacher**

Especially, with new things...



This Ain't Full Self Driving
It's a Driver's Assistant at best...

I am not a **Tesla** or **Elon** hater.

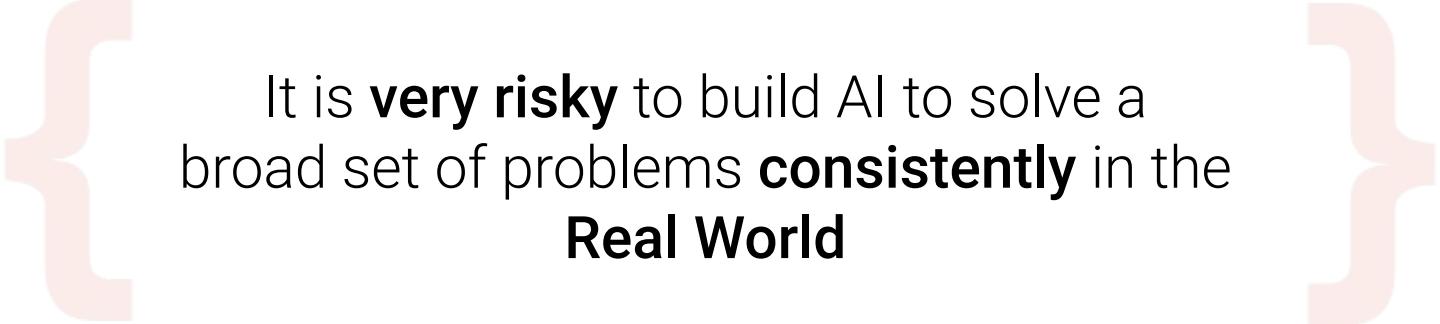
But this experience taught me that...



There is **no general purpose AI** today that can deliver solutions for your business that will perform in the real world.

Lesson Learned #2

I learned that



It is **very risky** to build AI to solve a broad set of problems **consistently** in the **Real World**



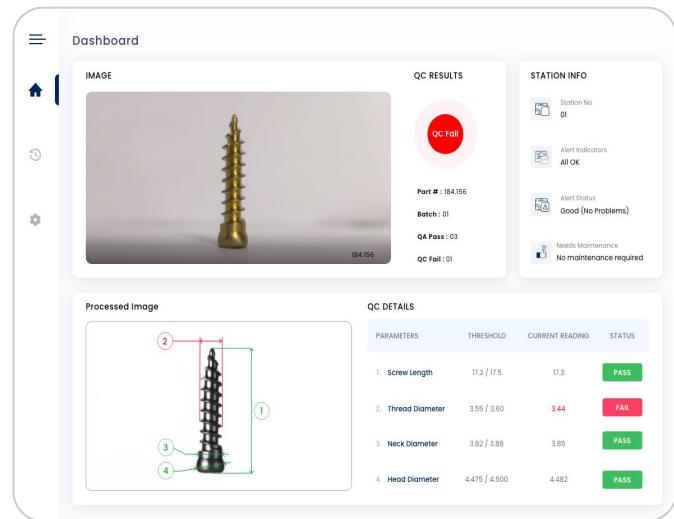
Specific purpose AI is more achievable
and promises more **lucrative ROI** for
enterprises

For example...

“

An AI powered *solution* that delivers **autonomous quality control** for your company specific products. Turning each business function **more profitable** and **scalable** consistently.

”





*Automate inventory tracking
with AI doing Real-time Stock
taking combined with AI
Forecasting to reduce waste
and maximize sales.*

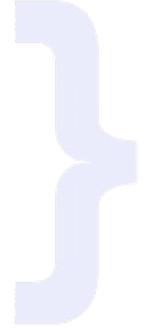


Highly valuable in a high
inflation and labor shortage
era.



Before you start building specific purpose AI for your business, you need to know that...

Lesson Learned #3



There are **Four Categories** of AI

Lab Grade AI



Excels in labs, but **lacks accuracy** and consistency to handle diverse scenarios outside of the **lab**.

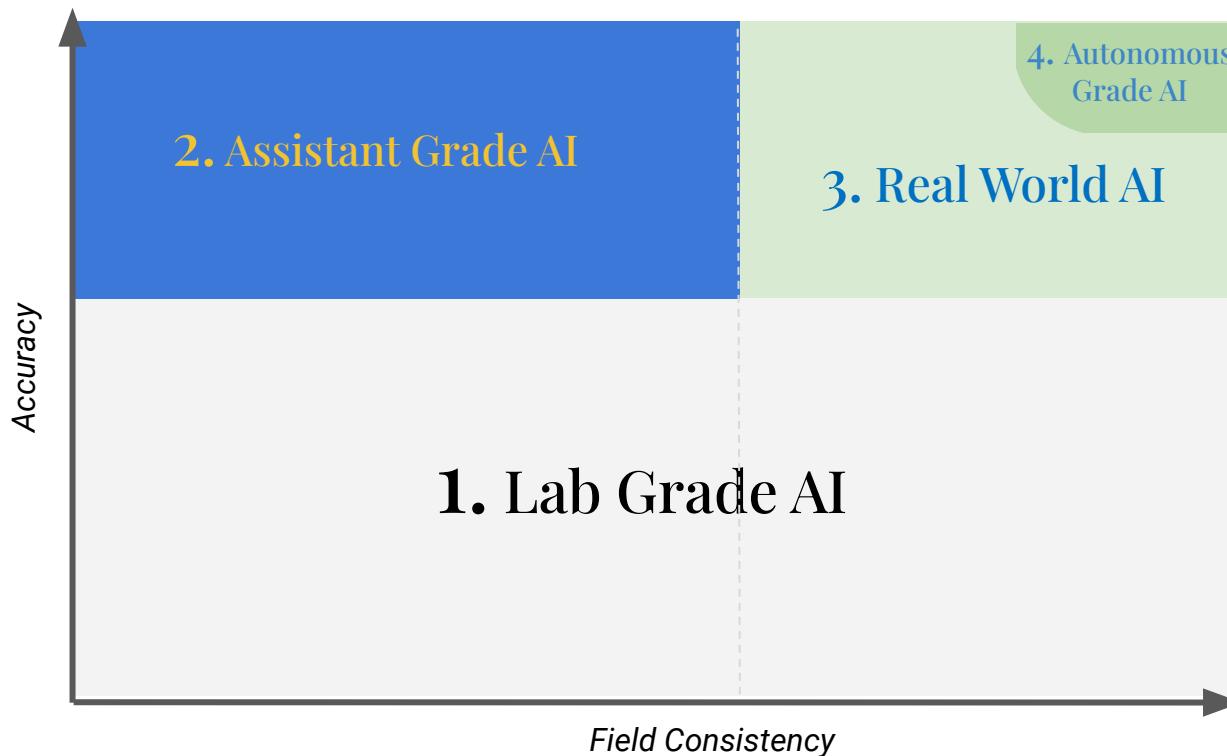
VS

Real World AI

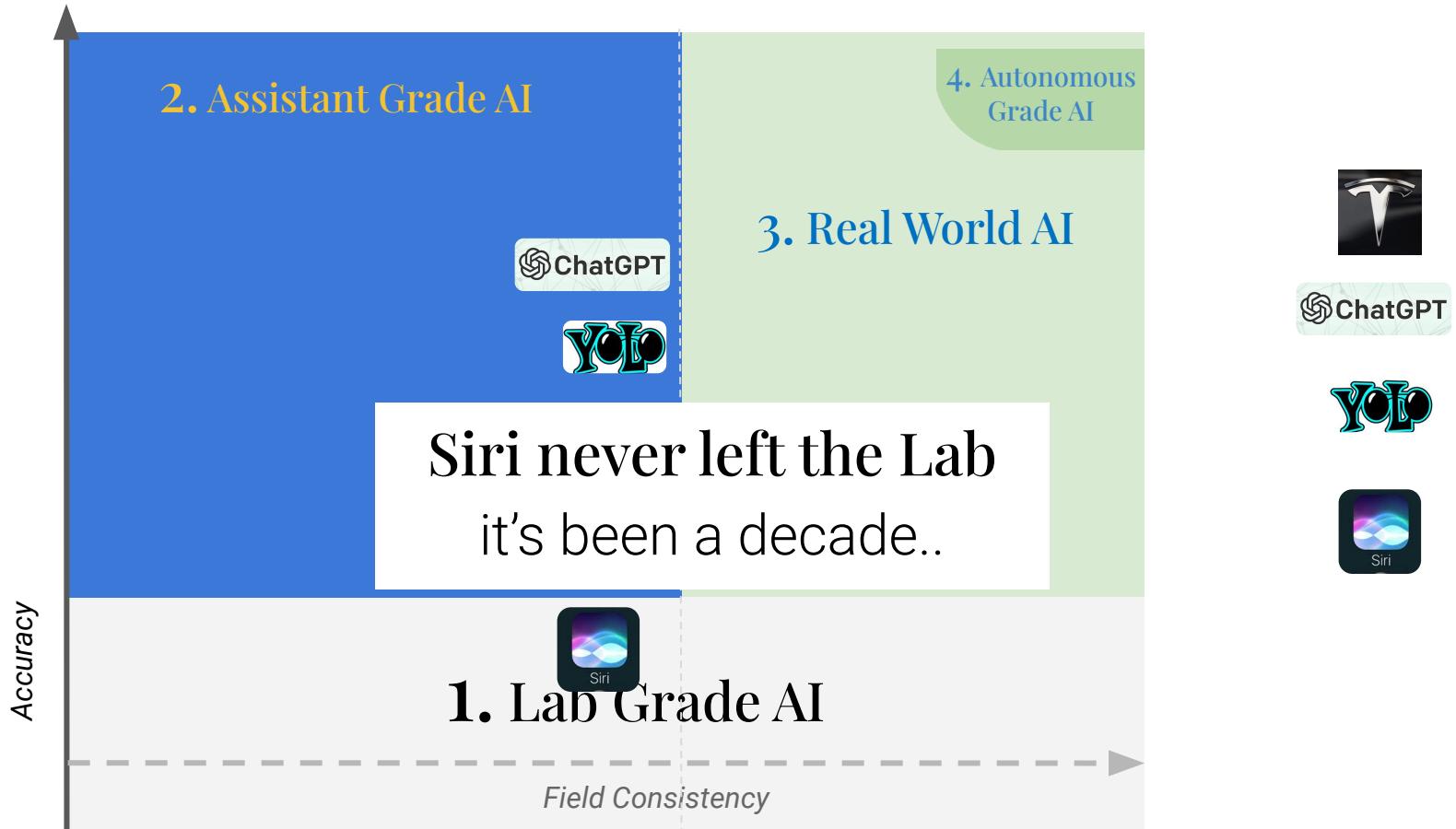


Delivers a human **expert level accuracy** and performs well consistently in diverse **real world** scenarios.

The **4 Categories** of AI



Popular AI Alignment Game Show



The **number of iterations** from lab grade to
real world AI **is the same** for everyone.

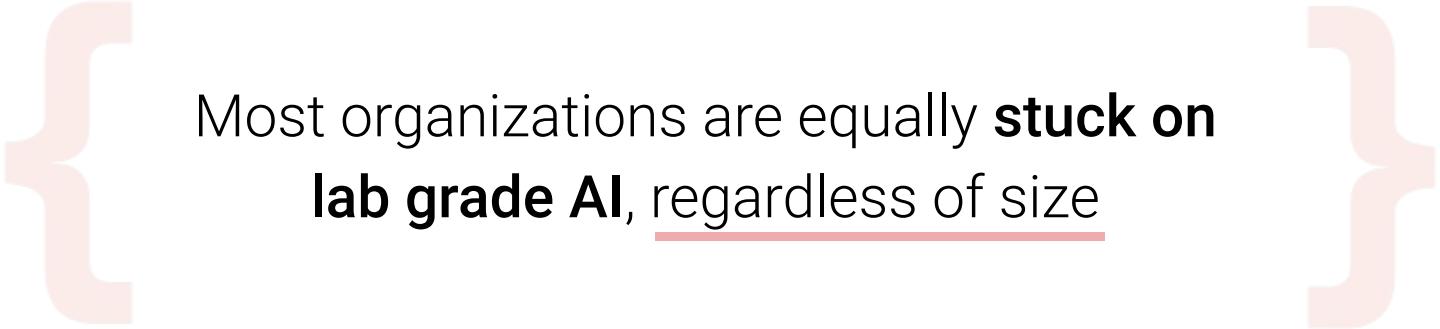
The only **variables in your control** are...

The **speed** and **effectiveness** of those iterations, can be exponentially **accelerated** when you...

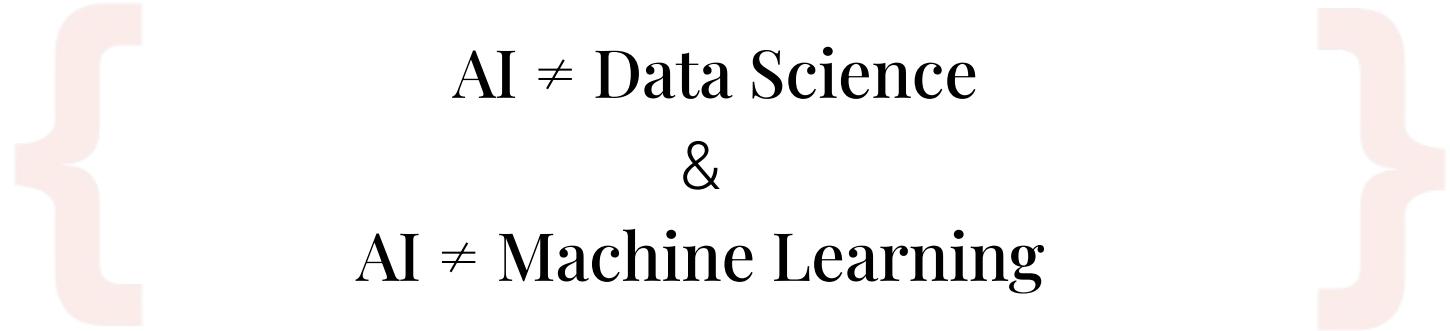
Lesson Learned #4



Assemble a **holistic AI team**, beyond
the typical data scientists & ML
engineers



Most organizations are equally **stuck on**
lab grade AI, regardless of size



AI \neq Data Science
&
AI \neq Machine Learning

“

*And I think that the most important thing has been to
get teams of people who are very different from
each other to work together harmoniously...*

”



Greg Brockman
Cofounder, OpenAI

The Makeup of a Winning AI Team



ML Engineer



Data Scientist



Software Engineer



Product Owner



User Experience



Domain Experts

The Makeup of a **Winning** AI Team

- 1 Product Owner**  with track record delivering business solutions
- 2 User Experience**  expertise delivering friendly digital solutions.
- 3 Domain Experts**  Humans with expert skills in the field.
- 4 Software Engineers**  who have delivered successful products
- 5 Data Scientists**  hire as usual. ensure they are open minded and collaborative
- 6 ML Engineers**  hire as usual. ensure they are open minded and collaborative



While a holistic AI team is very important for Real World AI success, it is **NOT** going to be enough by itself...

Lesson Learned #5

You need the **Secret Ingredient** as the final piece of the puzzle to secure your leap from Lab Grade to Real World AI...

{

RLEF

}

At techolution, we practise **RLEF**
to deliver AI success



But the few experts who know about it in
the AI business, refer to it as **RLHF**.

RLHF

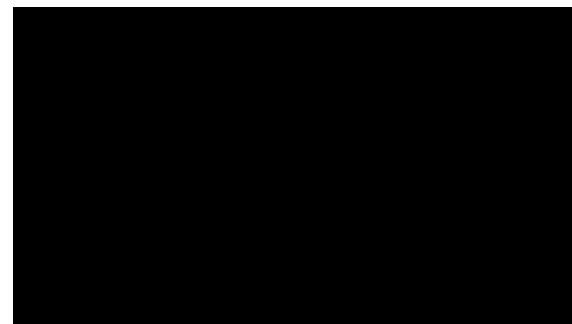
**Reinforcement Learning with
Human Feedback**

Don't believe me?
Let's hear it directly from **Greg Brockman**,
the Cofounder of OpenAI - ChatGPT.

“

You can build a machine like a human child, and then teach it through feedback. Have a human teacher who provides rewards and punishments as it tries things out.....

”



Greg Brockman
Cofounder, OpenAI

Before getting into RLHF, we need to understand the core principle of modern AI. Who better to learn about neural networks than the **godfather of modern AI**,
Geoffrey Hinton

“

We developed a computer model of the neural network to study it {Human Brain}. The computer neural network achieved wonders mimicking the human brain.

”



Geoffrey Hinton

If modern AI was modelled after the
human brain then why are we not
teaching it like we would a human?

After learning foundational skills in a “university” or a lab, the **apprentice** is also **paired with an expert** to learn the nuances of a job in the real world, regardless of the nature of job...

Is the secret ingredient that after your AI goes through deep unsupervised learning from the “**Lab**”, it must go through **RLHF - Reinforcement Learning with Human Feedback** to attain Real World level?

This is what the prominent AI experts are suggesting!

Meanwhile

Garbage In, Garbage Out!

*Just like with a human apprentice, if you teach
AI bad information and bad habits, then that is
what it will learn and do...*

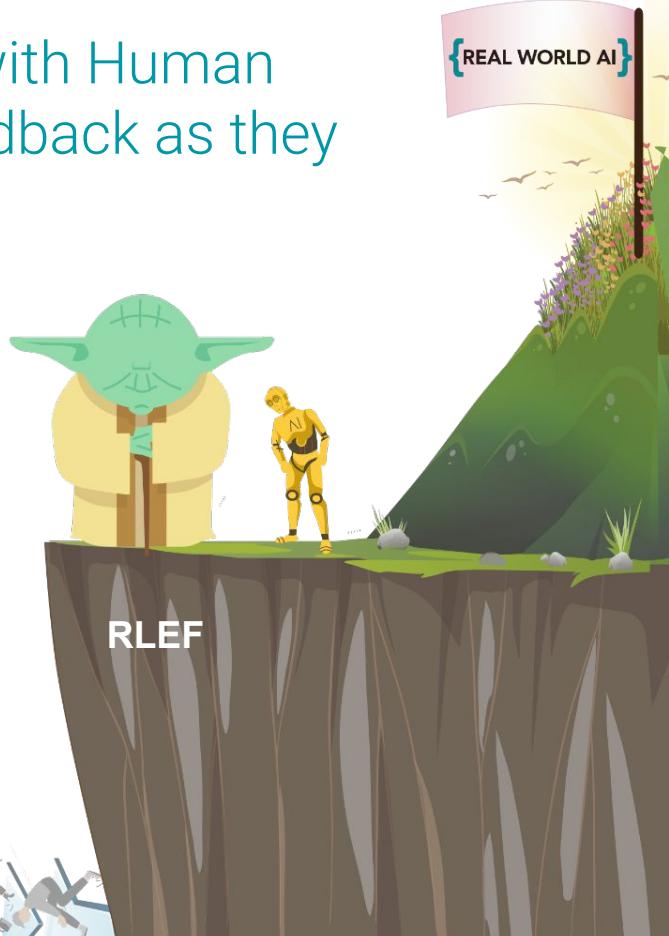
Therefore, the **real secret ingredient** to achieving
Real World AI **Success** is...

RLHF

AI Lessons Learned #5

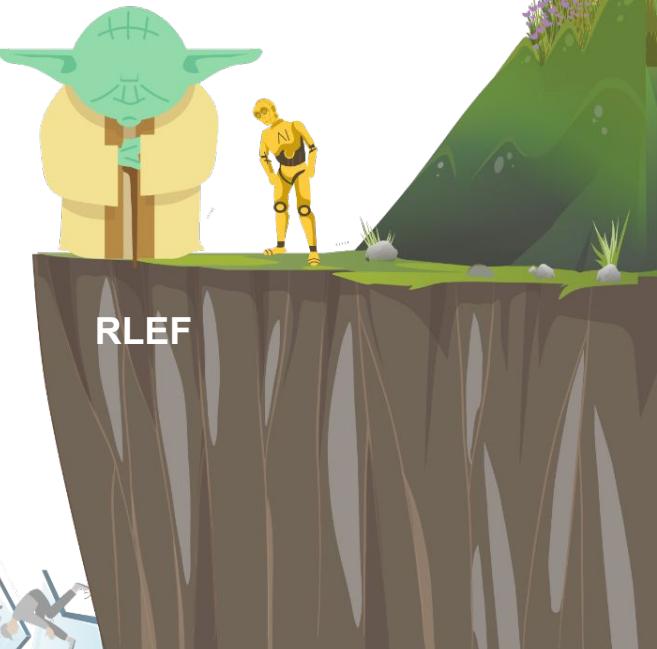
Reinforcement Learning with Expert Feedback

Pair the AI Apprentice from the Lab with Human Experts to provide them the right feedback as they make mistakes in the real world.



{REAL WORLD AI}

RLEF Interrupt...



Tim Delesio

Jedi of AI



Innovation done right



Thanks Elliots.

I'm very excited to show you some of Reinforcement learning from expert feedback capabilities we have done and how easy it is to train AI models. Now I'll be honest, this is a live demo and I haven't had time to sacrifice to the demo gods yet...maybe I should ask ChatGPT if it will help me?

Let me open up Alan, our TechoGPT version and see if we can get some better results.

This is custom version deployed into our private cloud that has been underone transfer learning and is a fully function LLM. Like the public ChatGPT....it should know nothing about today event as no one has told it about it and the latest information available is from sept of 2021.

As you can see, it knows nothing about the event. So let's change that and train it on todays event

Here is our Tool AI Done Right.
Now Let's train the model.

Training of the Model....

For anyone that has used chatgpt, this gives you a nice experience on how you can customize it with your own data. Imagine what we could do with this if we start to push the boundaries of it and use it to train images and video.



Speaker: Elliott

Digital Twin

What can **Real World AI** do for me today?

5 Use Cases of
Real World AI your enterprise can benefit from
from...

AI Business Use Case #1

Customer Service

Who likes customer service **chatbots**?



Specific purposes Generative AI agents are achievable. It will be way more **respectful** and **helpful** to customers **around the clock**



When **trained correctly** and supplemented with **RLEF**, the AI will learn your business *faster and better* than any new cohort of customer service agents you can ever hire.



In this era of declining birth rate and persistent **labor shortages** we see a **big need** for expert level quality Customer Service AI

Have you met our customers service AI
Alan?

Business Use Case #2

Business Intelligence

Do you need more **data & reports**?

Leading to more **decision paralysis...**

Or do you need more **intelligence**?

When you need it & Where you need it...

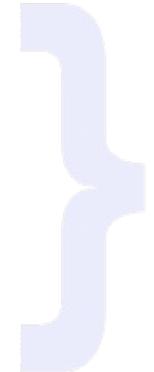
Imagine a BI GPT for busy executives like you, to give you the **right answers at the right time** so you can make **better decisions** faster for your business

Many of my friends are concerned if you teach
the public GPT, it will learn your trade secrets.

Is this True?

Many Businesses are concerned if you teach someone else's GPT it will learn your business.

Is this True?



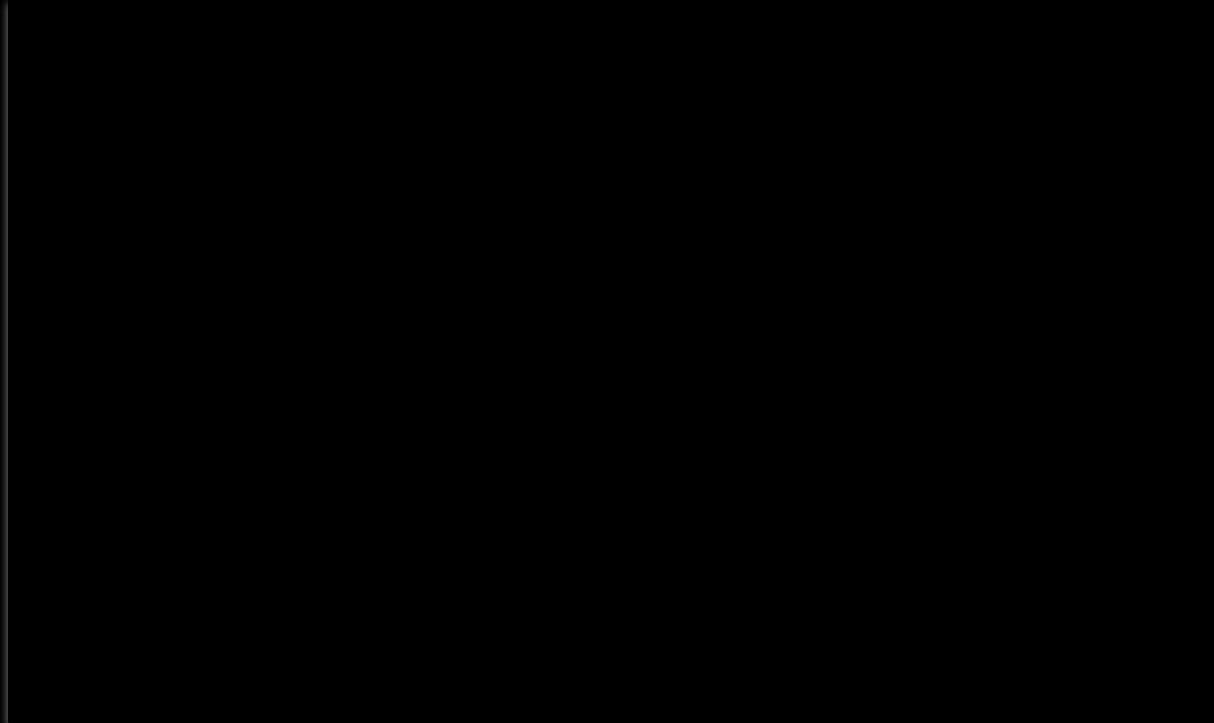
When done right, *your Business Intelligence GPT dataset* and AI model is kept **proprietary** on your private cloud and does not get shared with open source general purpose AI (i.e ChatGPT) it was trained with...



When done right, *your Business Intelligence GPT dataset* and AI model is kept **proprietary** on your private cloud and does not get shared with open source general purpose AI (i.e ChatGPT) it was trained with...

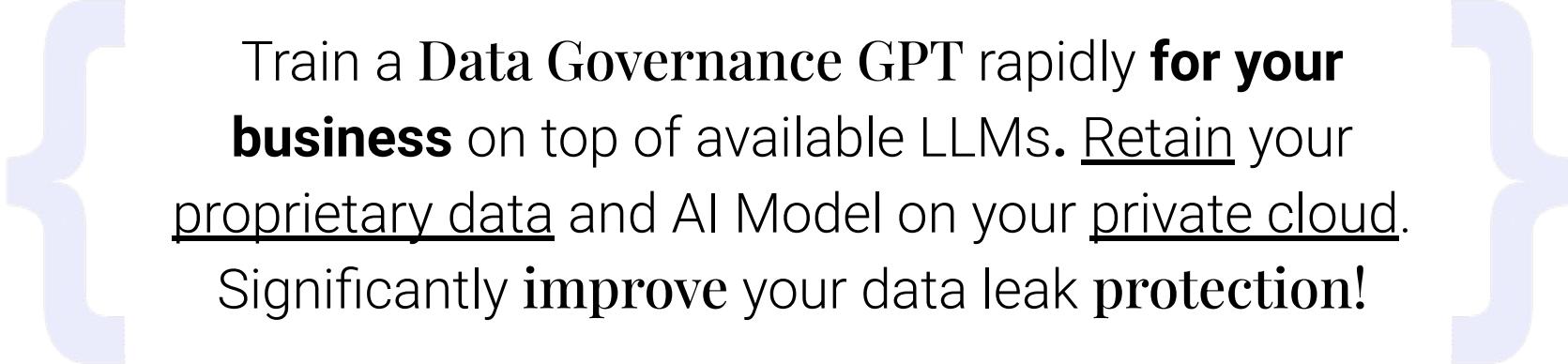
For example,

Here is a preview of our Proprietary Business Intelligence AI GPT for Enterprise.



Business Use Case #3

Data Governance



Train a Data Governance GPT rapidly **for your business** on top of available LLMs. Retain your proprietary data and AI Model on your private cloud. Significantly **improve** your data leak **protection**!

Business Use Case #4

Inventory Management

Due to supply chain issues, labor shortage and
input material inflation

It is critical for businesses
to **reduce waste** in their **inventory** and **maximize sales**

You can realistically build **autonomous inventory management AI** to instruct your employees or robots exactly **what products** to deploy to the **right place** at the **right time** across your supply chain.



This **specific purpose AI** will reduce waste & maximize sales when correctly trained for you business

Business Use Case #5

Quality Control

Quality Control of products is difficult to automate with traditional software.

— But —

It is increasingly **harder to find** affordable labor to do these repetitive high precision tasks.

Today, it is **realistic** to build Real World AI on top of computer vision to autain autonomous quality control of your **high precision products**

This function can **quickly scale autonomously** without the hard to find human experts in an era of labor crunch

Outro

Reach out to us if you'd like a copy of
this presentation or if you have any
comments or questions

innovate@techolution.com



I hope you enjoyed the show
& you learnt something valuable
about AI today...



innovate@techolution.com

innovation done right

My parting note...

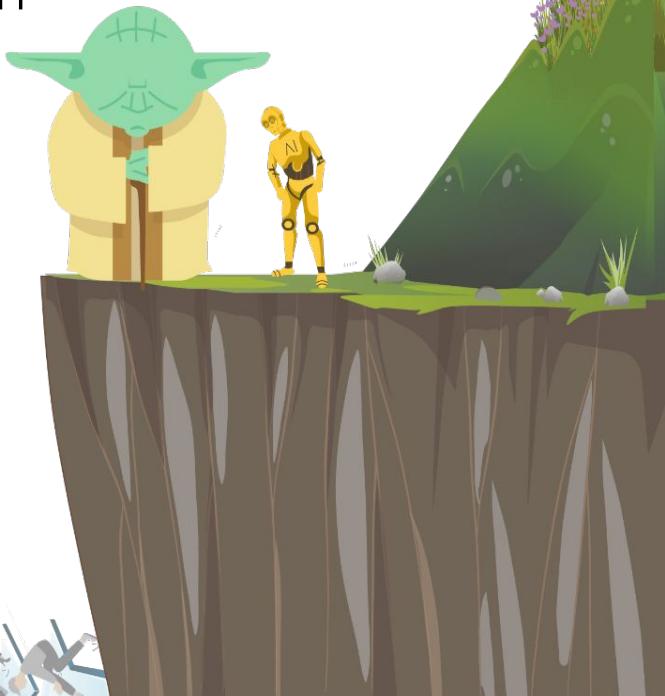


As an enterprise leader,
your organization will be
changing completely
in a short amount of time

Jobs will become obsolete
and new exciting ones will
emerge...



Although this is scary to many,
there are enough **leaders**
to steer the ship on the right path



We can make this AI transformation
profitable for your **businesses** and
positive for your communities.

{

Let's do AI right

}



innovate@techolution.com