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Cybersecurity Strategies for Healthcare Organizations: The Rise of the AI Workflow

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AGENDA

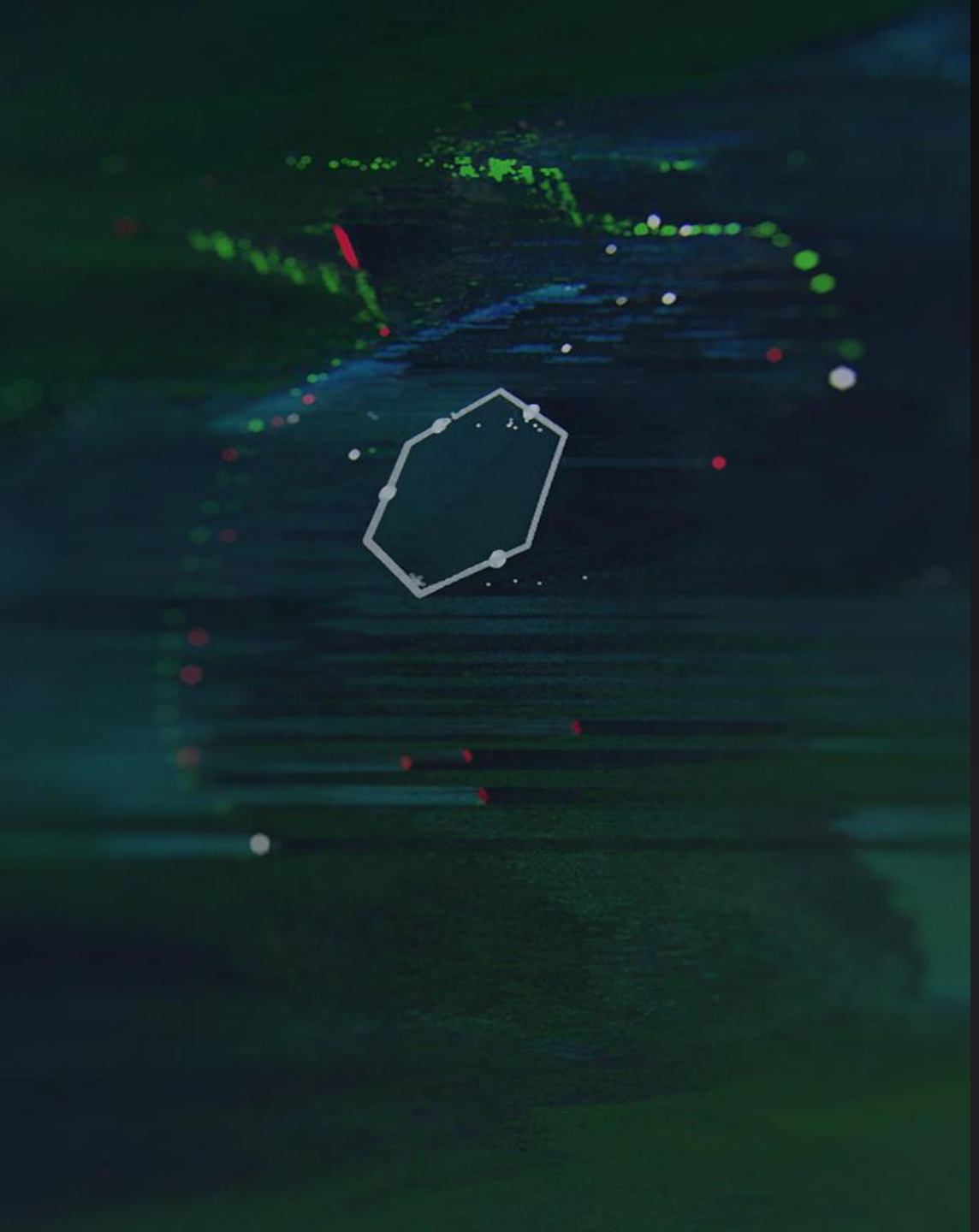
Artificial Intelligence:
History, Strengths, Practical Examples

Cylance Security Solutions

Preventative Approach

AI Use Cases and Process

AI Approach to Security



Our Mission

Our mission is to protect every computer, user, and thing under the sun. Cylance® makes software that predicts, then blocks cyber attacks on the endpoint in real time using pre-execution artificial intelligence algorithms.

Our solutions leverage the power of machine learning, not humans, to dissect malware's DNA. Our AI/ML model then determines if the code is safe to run.

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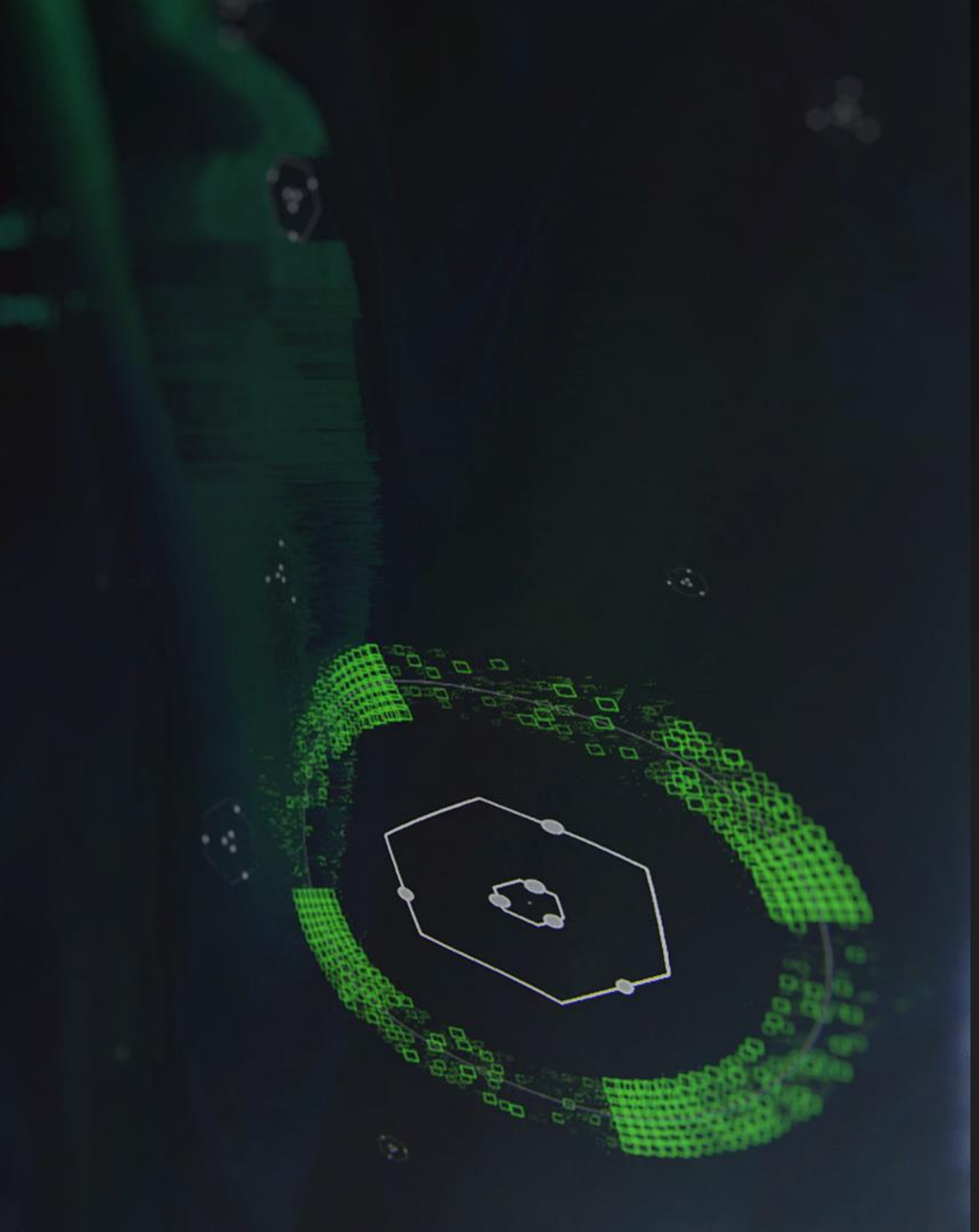

Why AI and ML

Artificial intelligence and machine learning allow us to build mathematically sound relationships between features and correlate seemingly disparate features far beyond human ability. Both disciplines are proven to be more powerful, efficient, and accurate than any human approach to cybersecurity.

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Cylance Security Solutions

Prevention is possible. Continuous prevention is achieved with endpoint security solutions that offer AI-driven, prevention focused software with specialized security services designed to eradicate active threats and safeguard against future ones.

Uses AI To Deliver Prevention

No Signatures or Constant Updates

No Cloud or New Hardware Required

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The Benefits of Prevention

Prevent
Zero-Day Attacks

Increase Productivity and
Gain Higher Performance

Lower Overall
Operational Costs

Predictive AI-Threat
Prevention

Reduce Layers and
Optimize Security Stack

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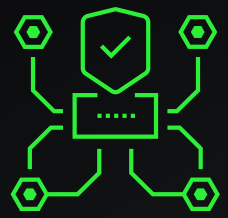
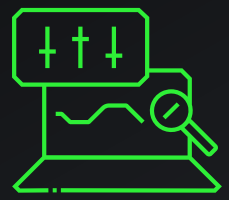
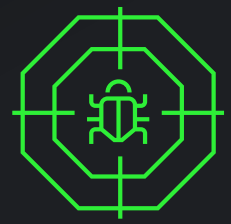
Security Solutions Use Cases



Prevent
Successful Attacks

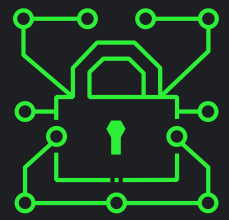


Investigate Attack
and Alert Data



Perform Targeted
Threat Hunting

Dynamic
Threat Detection



Prevent
Widespread Incidents

Take Automated
Response Actions

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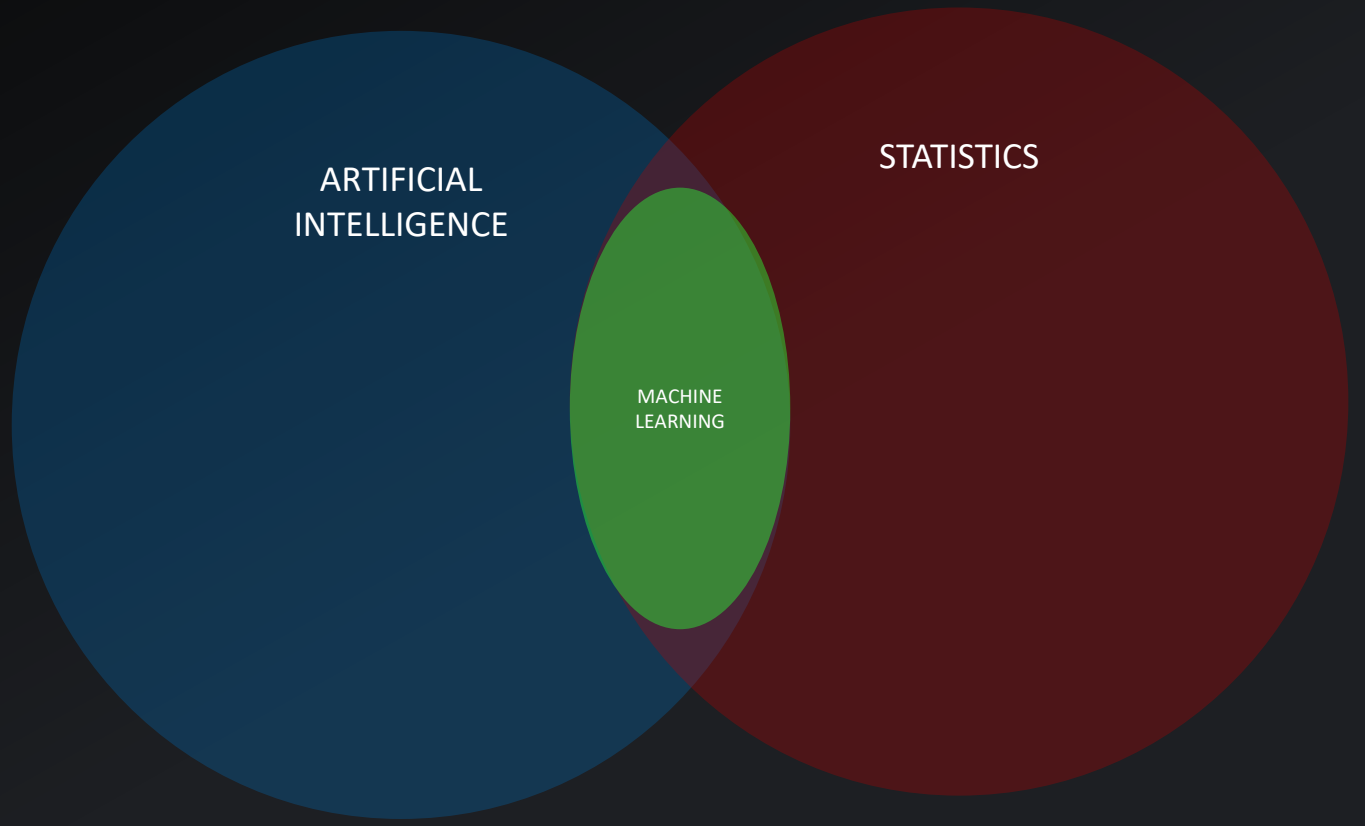
What is AI

Data Science is an interdisciplinary science of learning from data.

- Data Exploration and Preparation
- Data Representation and Transformation
- Computing with Data
- Data Visualization and Presentation
- Data Modeling
- Science about Data Science



Statistics is the focus on relation between data and hypotheses.

Machine Learning (ML) is a field of research within Artificial Intelligence (AI) that studies learning systems which find patterns in data using algorithms

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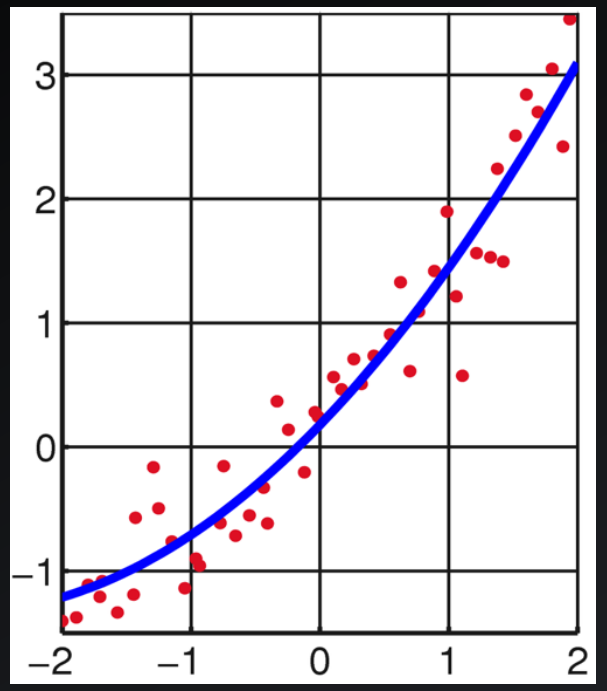
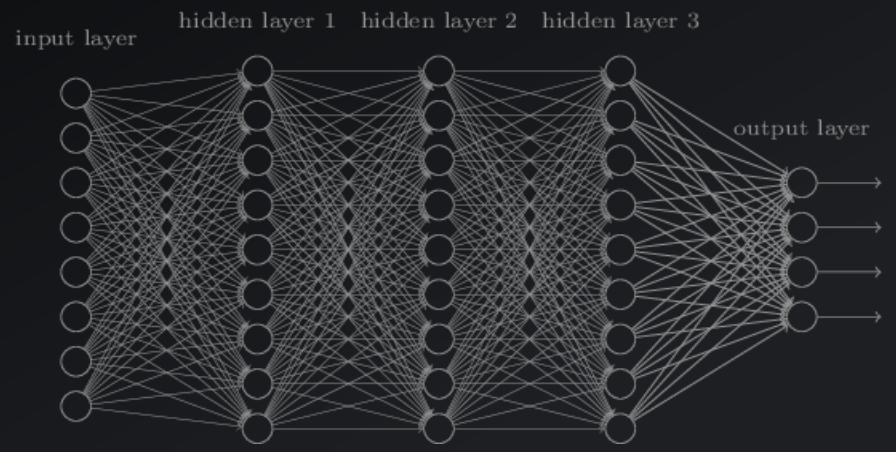
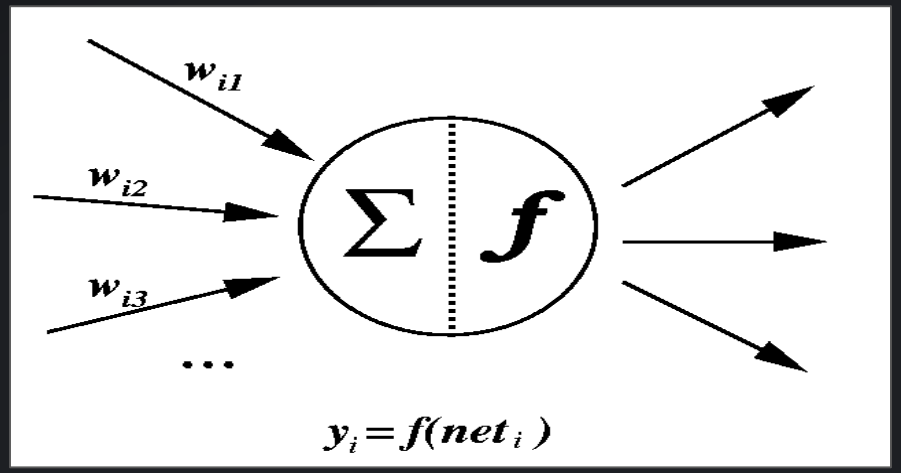
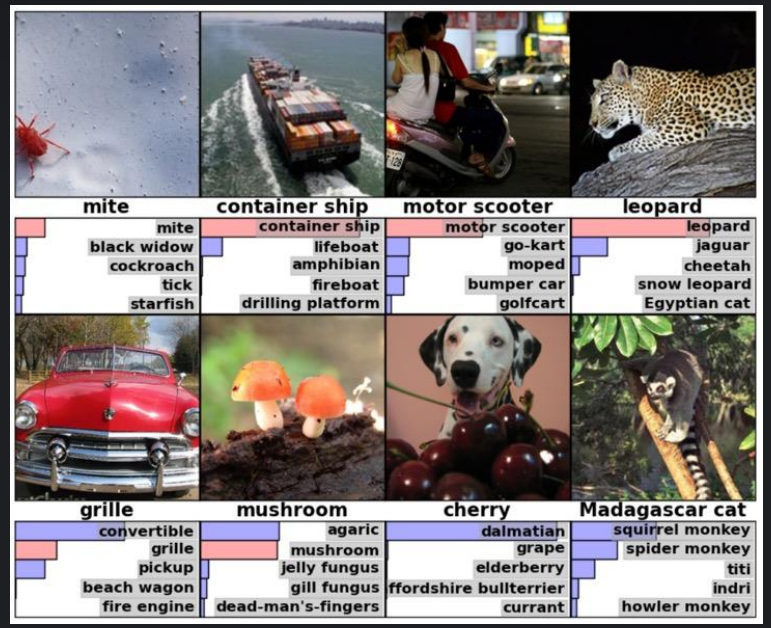
The History of AI

Many different approaches









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Machine Learning Training

Supervised vs. Unsupervised

OR

Supervised ML

- Used when ground-truth information is plentiful
- Used to classify different samples into different distinct categories
- Judging the quality of the classifier is easy -- what is the accuracy?

Unsupervised ML

- Use with little/no ground truth
- How similar samples are to each other?
- More careful and qualitative human analysis to check the resulting model

Credit: Ben Hammer, Kaggle

AI Strengths

GOOD

Simple Questions

- “Is this bad or good?”
- ”What is good?”
- “Is this user following their trends?”

BAD

Complex Questions

- “What is secure?”
- “Will I like lunch?”
- “What is the airspeed velocity of a unladen swallow?”

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Practical Uses of AI

AI is everywhere

- Anti-Malware
- User Behavior Analysis
- Process Automation
- Image Processing
- Audio Recognition
- File and Process Auditing
- Search Refinement
- Customer Engagement
- Incident Response Engagements
- Mineral Prospecting
- Manufacturing/Production
- And the list goes on…

The AI Approach to Security

Cylance Machine Learning Cycle

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Closing Thoughts

- Whether it's Clinical Support or Cyber know what AI technique is being applied.
- Understand the process and how AI impacts the solution.
  - Cloud Models vs Endpoint Models
- AI is not the answer in all cases.
  - Don't complicate a solution where a simple answer will do
- Some systems have complexity that cannot be easily solved by AI.
  - Medical Device maintenance prediction
- Automation in cybersecurity is great for a lot of things.
  - Does not replace people, process, or house keeping
- Use a firm or other CISO in the sector to validate your assumption for complex tech.
  - Second opinions aren't a bad thing
- Trust the math, but verify the result.

Questions

+

Answers