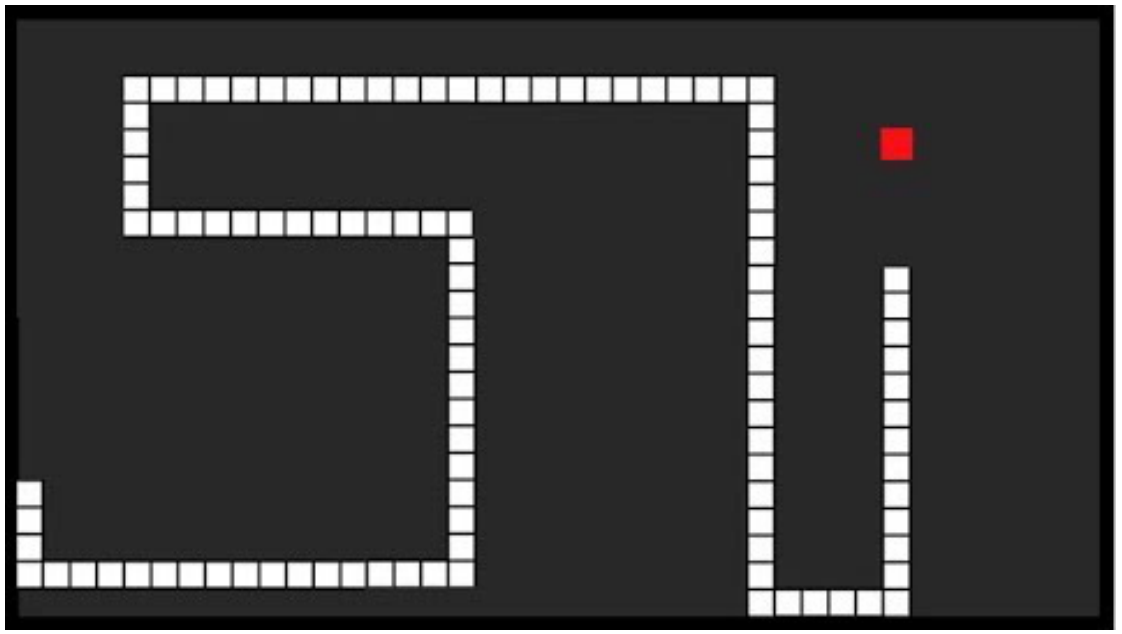
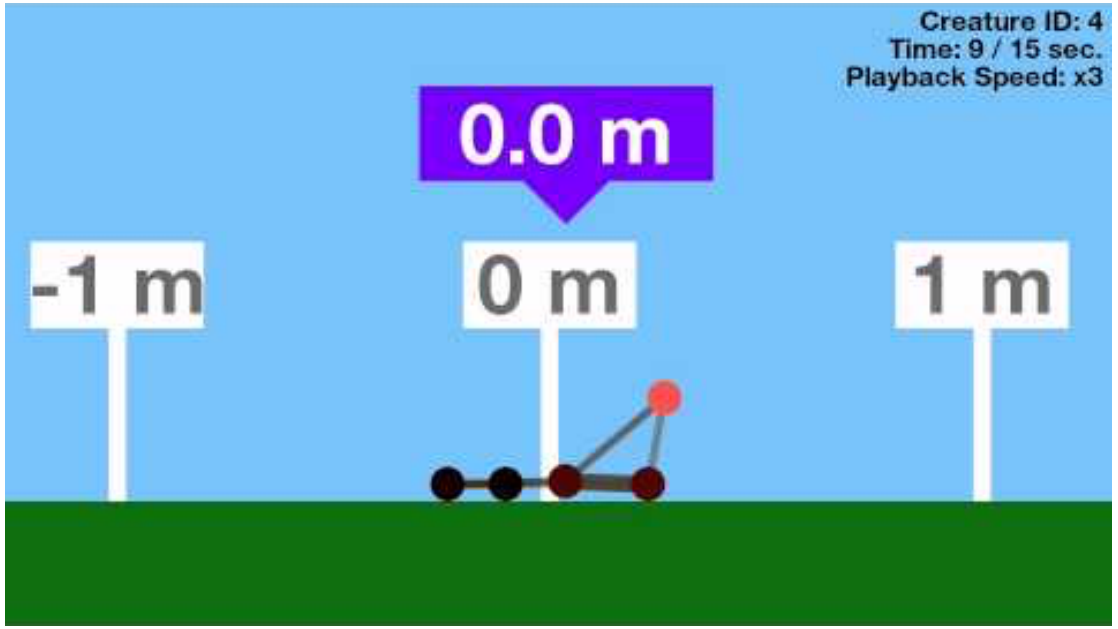
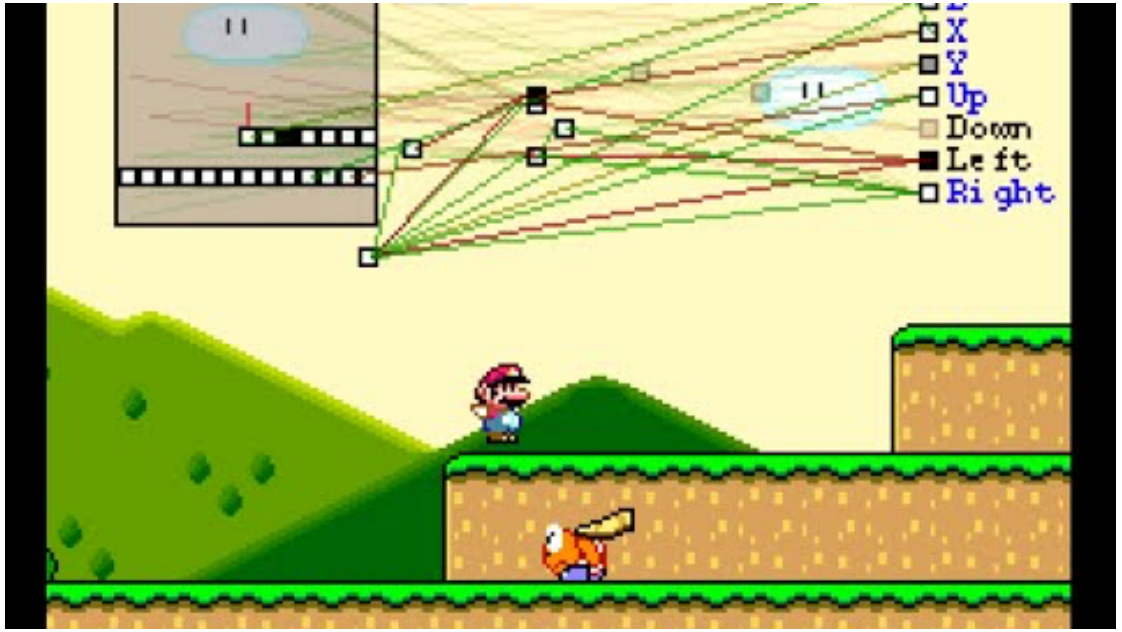
10 Steps to Move a DevOps Team into the AI World

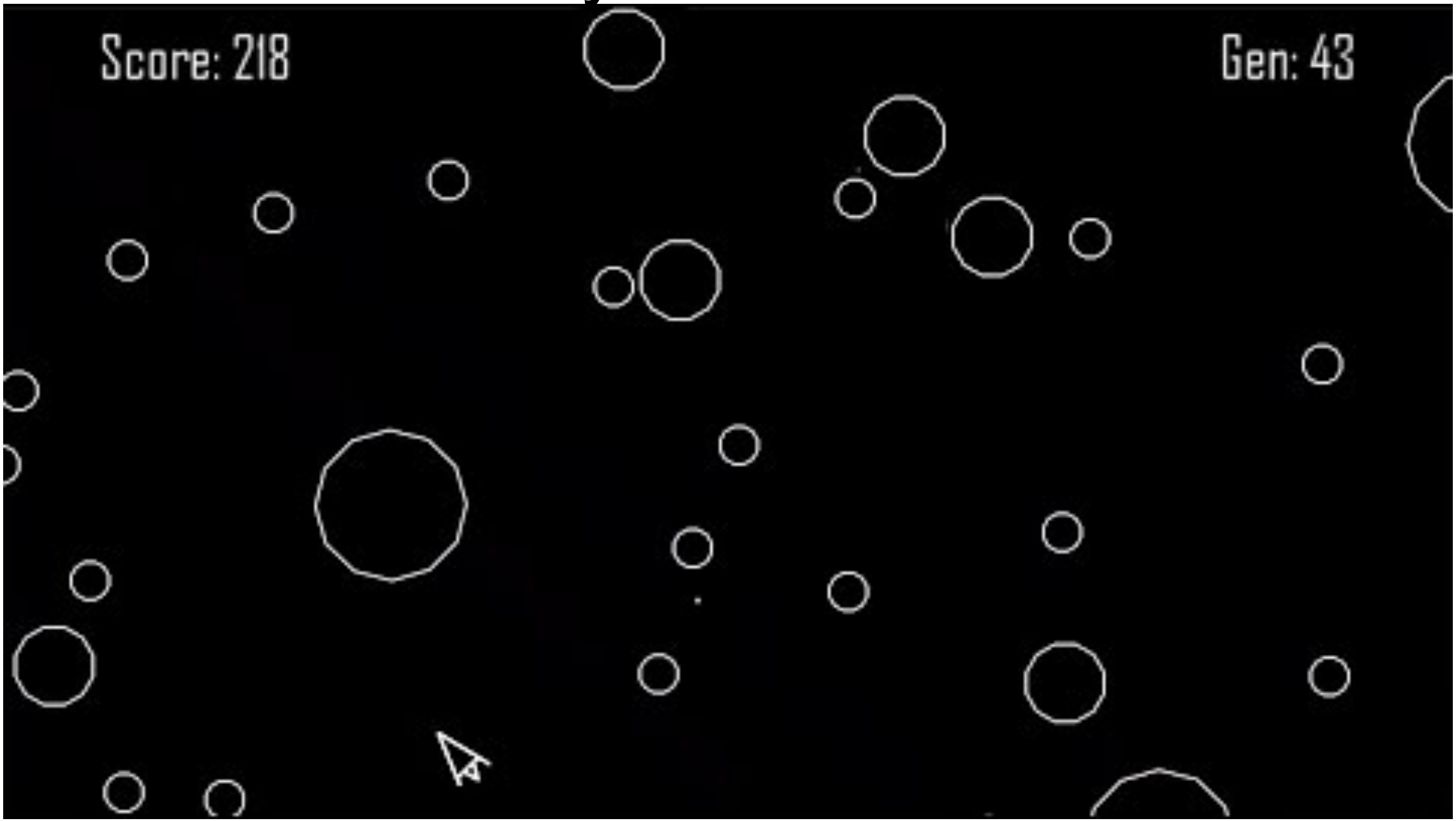
AI is the Biggest Disruptor since the Industrial Revolution







NEAT Plays ”Human-Like”



Disruptive Productivity Gains between 1700 and 1900

Shuttle Loom (1733): 2 fold productivity gain

Spinning Jenny (1764): 100 fold productivity gain

Great Expectations

Business

Serve customers better

Data-driven decisions

Complexity reduction for humans

Lower cost and risk

DevOps

Better quality software

Faster releases

Lower cost and risk


rifle_adv.png

Helicopter 78%
Rotorcraft 66%
Aircraft 5
Vehicle

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Know the Risk

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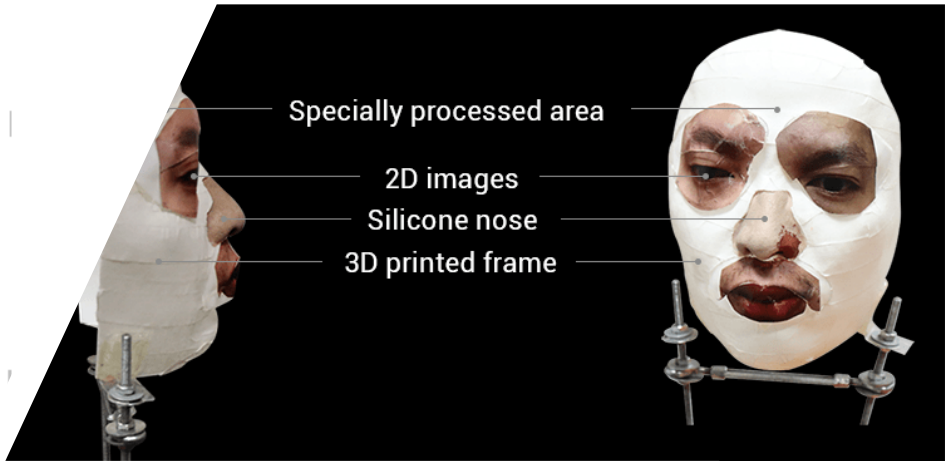


And Always Remember:

- Data is the foundation
- Hardware is important
- Algorithms are a commodity

and…

… managing expectations is everything

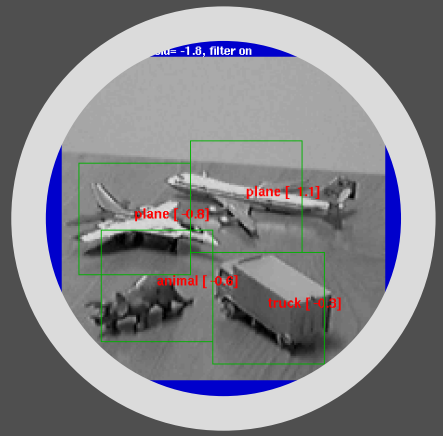
AI/ML Is Fundamentally Different from Human Thinking

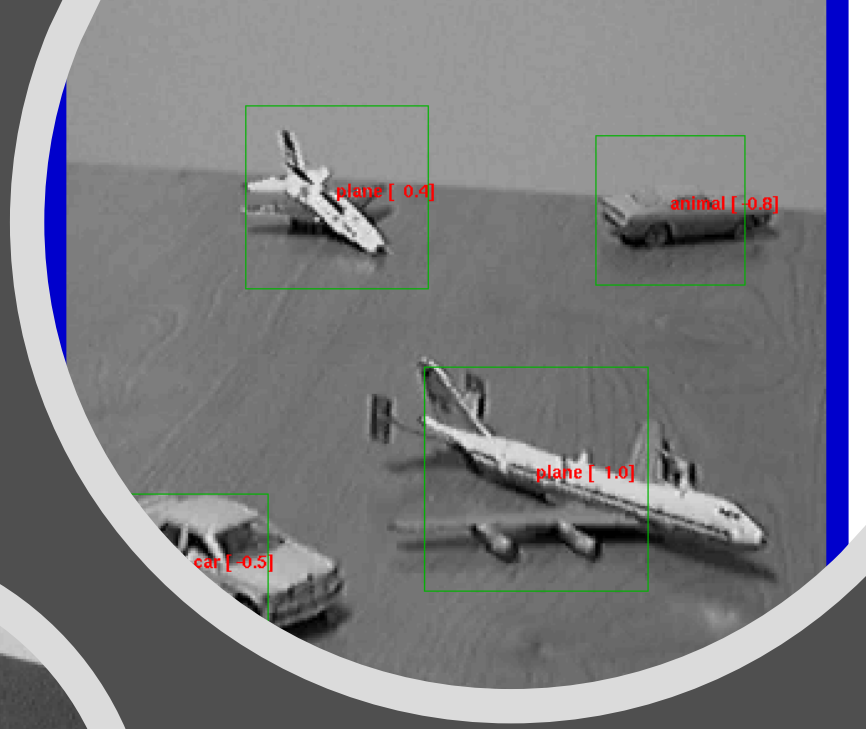
Rule #1: Train the Entire Team to Identify the Right Problems for AI

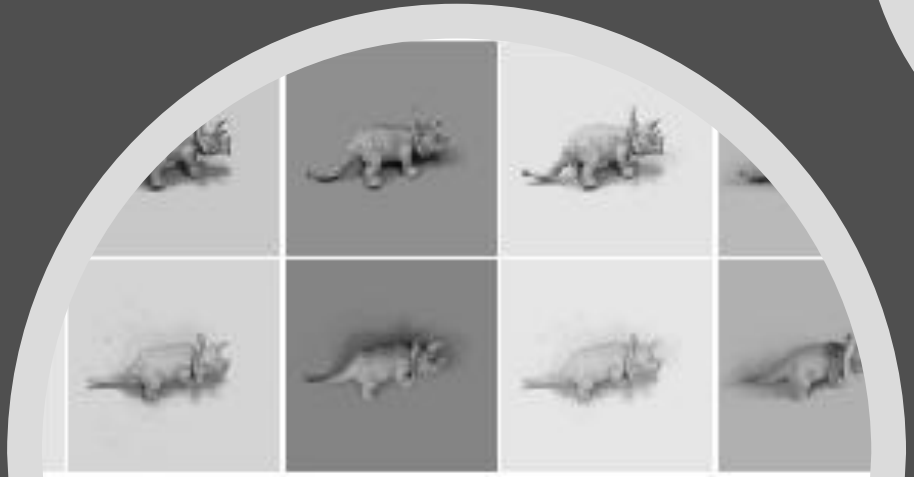
- **Look for:**
- High impact on usability, speed, or cost
- Traditional coding solutions have failed
- Complex and amorph challenges
- Constantly changing problems
- Pattern matching challenges of abstract data sources
- Easy observability of dependent and independent variables

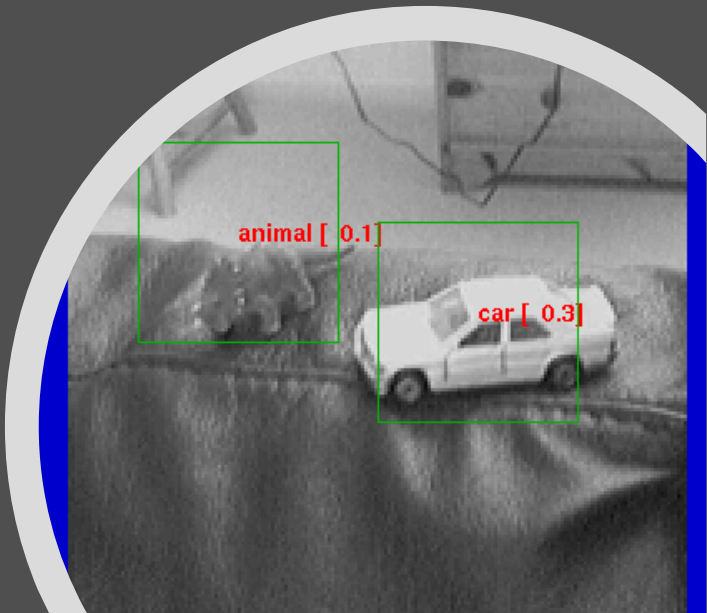
Rule #2: Start with Specific Problems

- **Address high value point problems that instruction-based programming cannot handle:**
- Hand writing recognition
- Facial recognition
- Voice recognition
- Object recognition
- Content classification
- Abstract pattern recognition









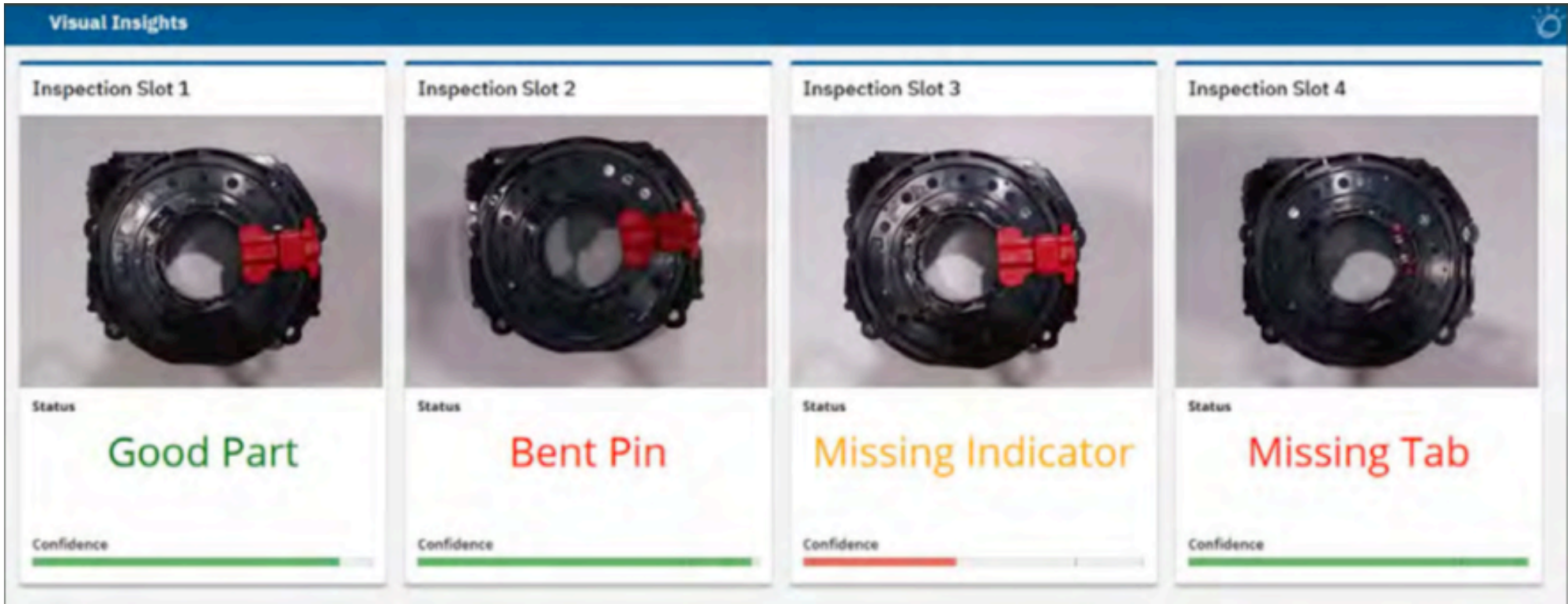
Rule #3: Treat AI as an Experiment

- **Unless your team has experience solving the same challenge using the same AI model before, do not put AI/ML into the critical path for your releases.**
- Plan in extra budget and time
- Encourage and reward experimentation
- Always have “plan b” in place

Rule #4: Use turnkey APIs First

Always start by looking at canned AI/ML APIs

Pretrained models for many popular tasks



Rule #5: Make it Modular

Treat AI/ML models as standard DevOps artifacts

Leverage AI/ML as the Swiss army knife to solve the hard problems

Rule #6: Use a Separate Pipeline

Unless you have proven the reliability of your AI/ML model for the exact target use case, the AI pipeline should be managed separately from DevOps pipelines.

Rule #7: Require and Reward Metrics

Unless you have proven the reliability of your AI/ML model,

Rule #8: Take Advantage of Public Data

Learn what relevant public data sources are available

Learn how to use them to bridge gaps

Rule #9: Secure Your Model Against Threats and Bias

Rule #10: Regard AI as a Strategic Investment

AI/ML solutions can continuously improve

Experience will lead to continuous improvement

BUT: always require clear success metrics for each project