Real Life AI Applications for Structural Steel

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Smarter. Stronger. Steel.

AISC Vision for AI

By 2025, develop a ChatBot that will quickly and accurately answer technical questions from fabricators, engineers, architects and detailers

Develop tools and framework for AISC fabricator members which will help determine where and how they can utilize AI

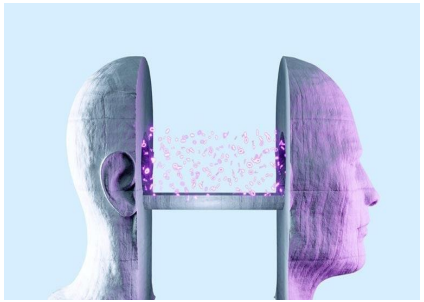
Maximize value of Milek Fellowship Award

Ensure AISC is leveraging AI advantages at a staff level.

Create an environment that supports the development of AI tools by software developers that support the industry.

There are different types of AI

- Generative AI
- Visual AI
- Agentic AI
- AGI
- ASI?

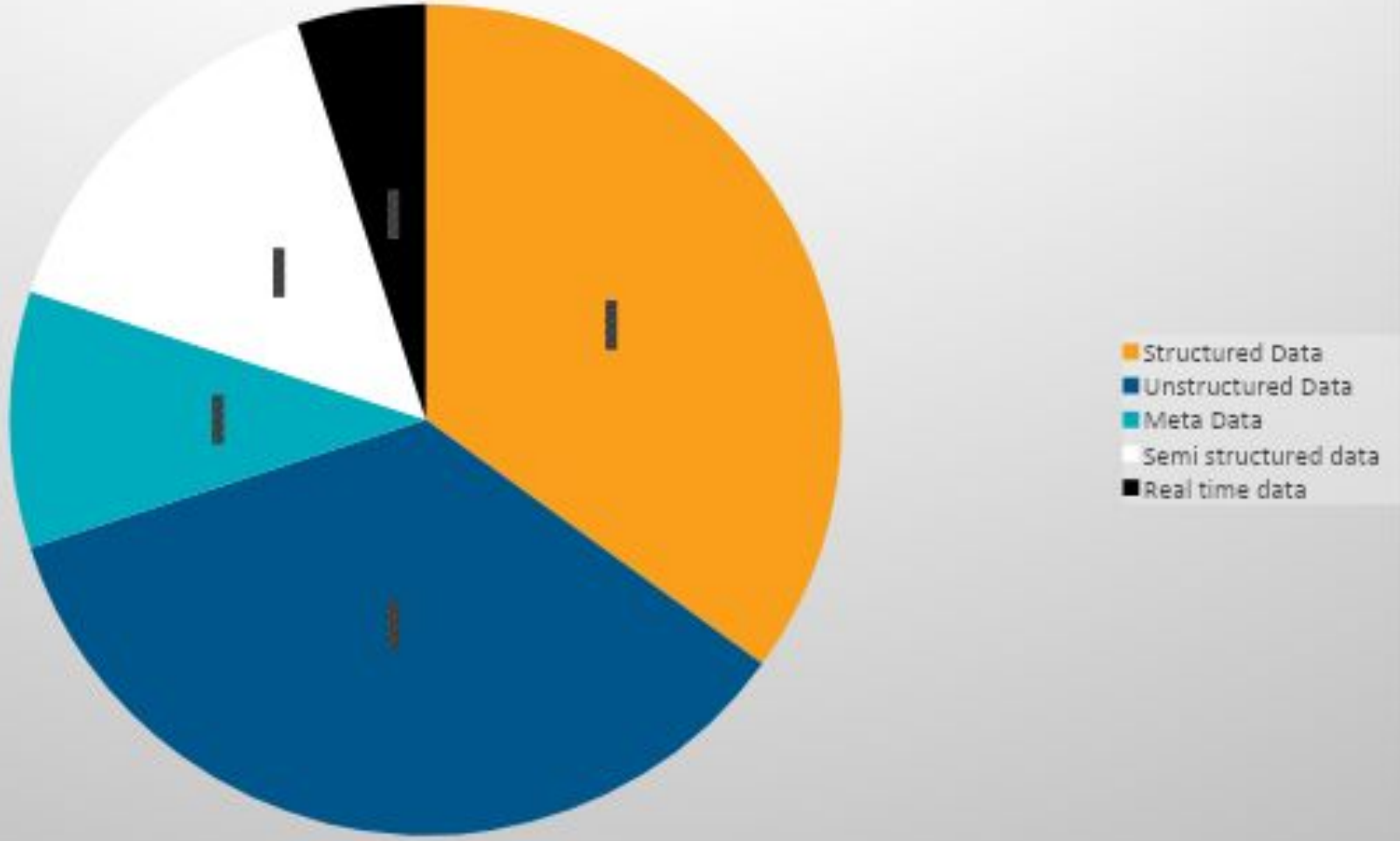


“Data is the New Oil”

The world’s most valuable resource is no longer oil, but data

The data economy demands a new approach to antitrust rules

Data Classification for Construction Business



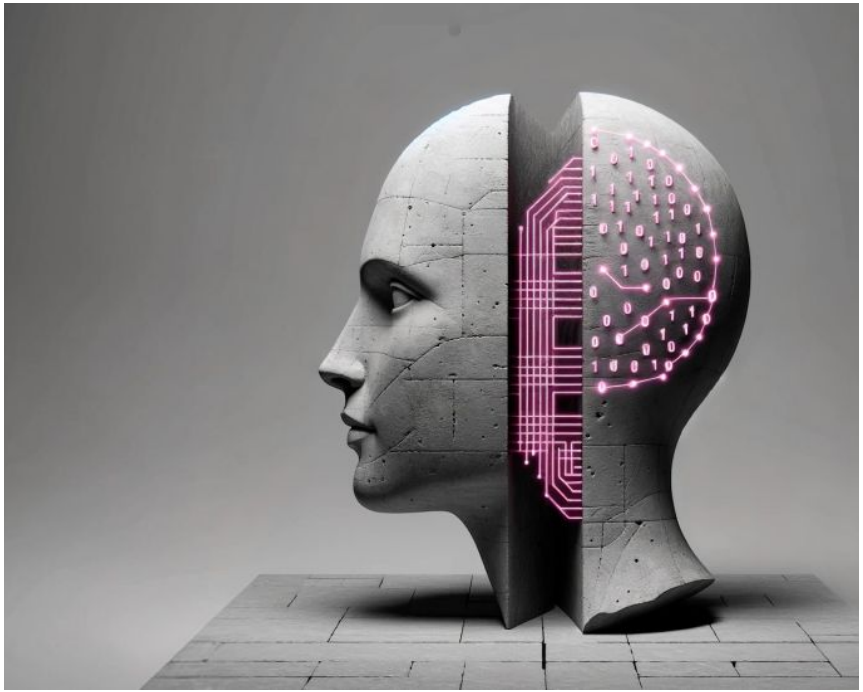
30-40%

Prediction

Tasks that White Collar Workers Do Impacted By AI

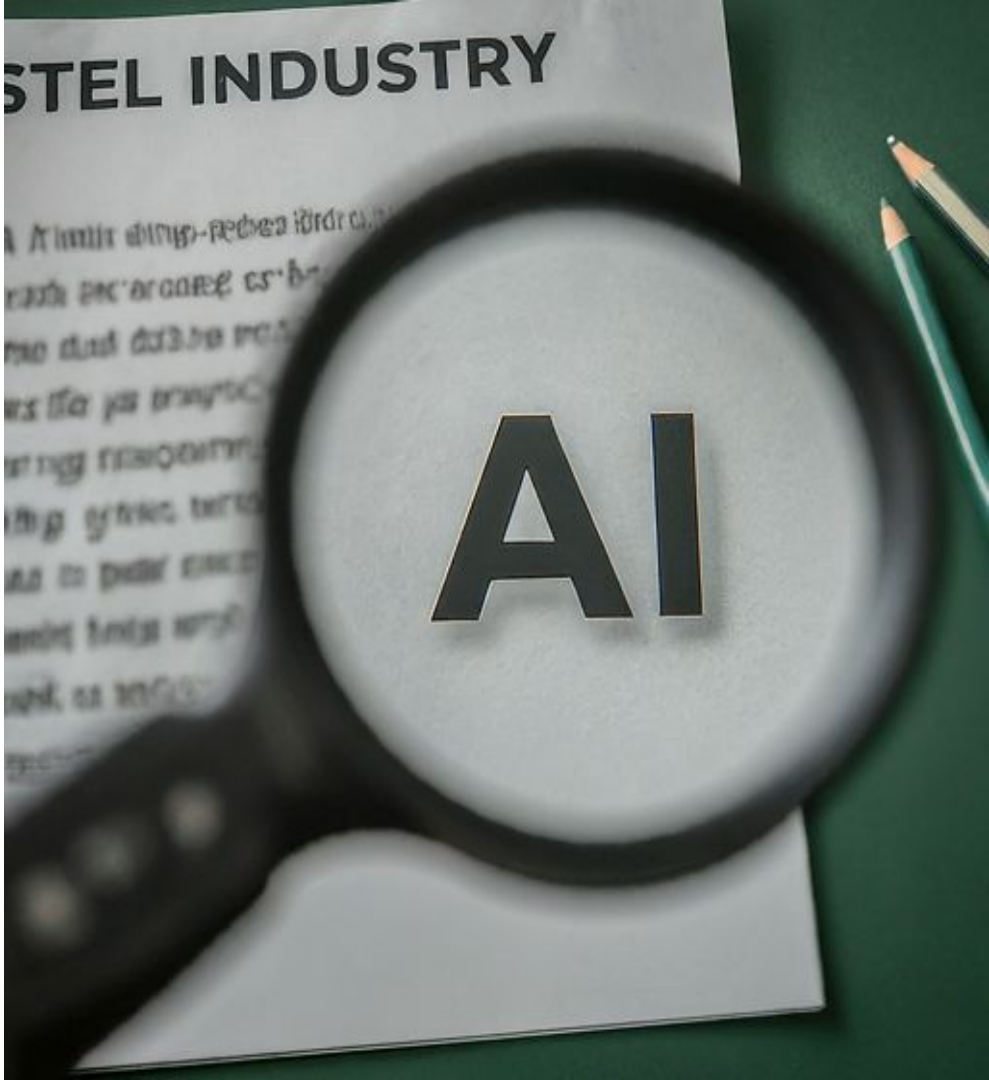
AGI Timeline

- 2025 – use of stumbling agents to improve workflows
- 2025 Data Centers Buildout
- 2026 Automated Coding AI absorbing AEC Jobs
- 2027 more sophisticated Agents – continuous training
- 2028 AGI?
- 2030 Robots Powered By AGI?



Our AI Discovery Journey

- Focus on defining both AISC and steel industry needs regarding AI.
- Conduct review with both staff and industry stakeholders.
- Engage with stakeholders to gather diverse perspectives and insights.
- Identify pain points, challenges, and opportunities for AI integration.
- Develop clear and actionable recommendations based on findings.
- Selected Consultants and Developers



Member Facing - What we've Heard From Users

- Steel is hard to use, we need to make it simpler
- Fabricators need guidance and need to know what's possible
- Steel is easy to use, we need to support that
- Industry is excited for the potential, but has many concerns
- It can be hard to find relevant information for AISC members
- Developers would like more data availability

AISC Chatbot

It makes steel easier to use, by accessing and citing answers quickly and clearly

Aligns with strategic objectives

Frees up staff for more complex questions

Incorporates 200,000 pages of docs

This is not the world’s smartest engineer

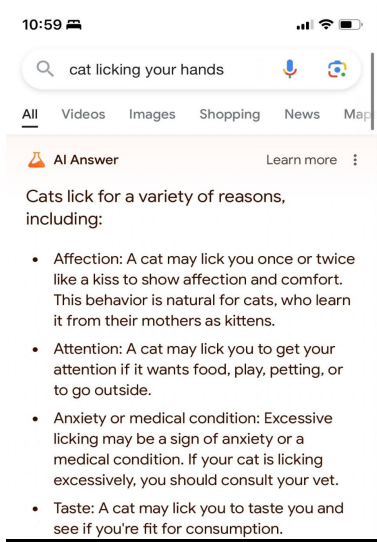
Secure sources

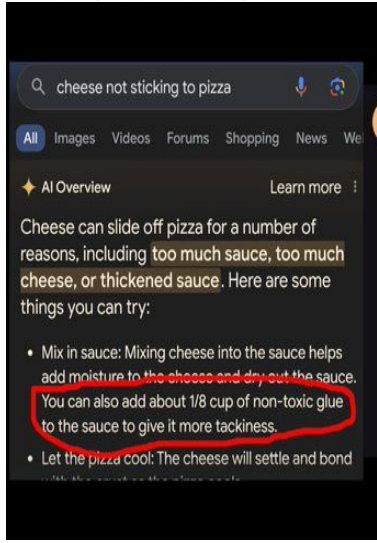
Importance of RAG

AISC information is secure and protected

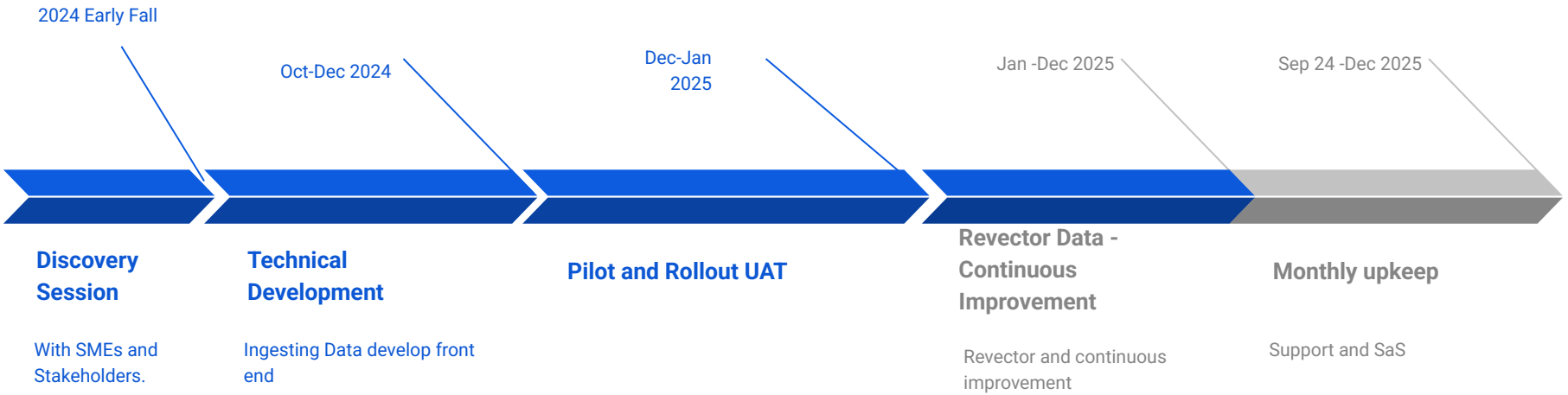
RAG only uses what we tell it to and only looks where we tell it to

If it is unable to find answers, it says so, rather than…guess.

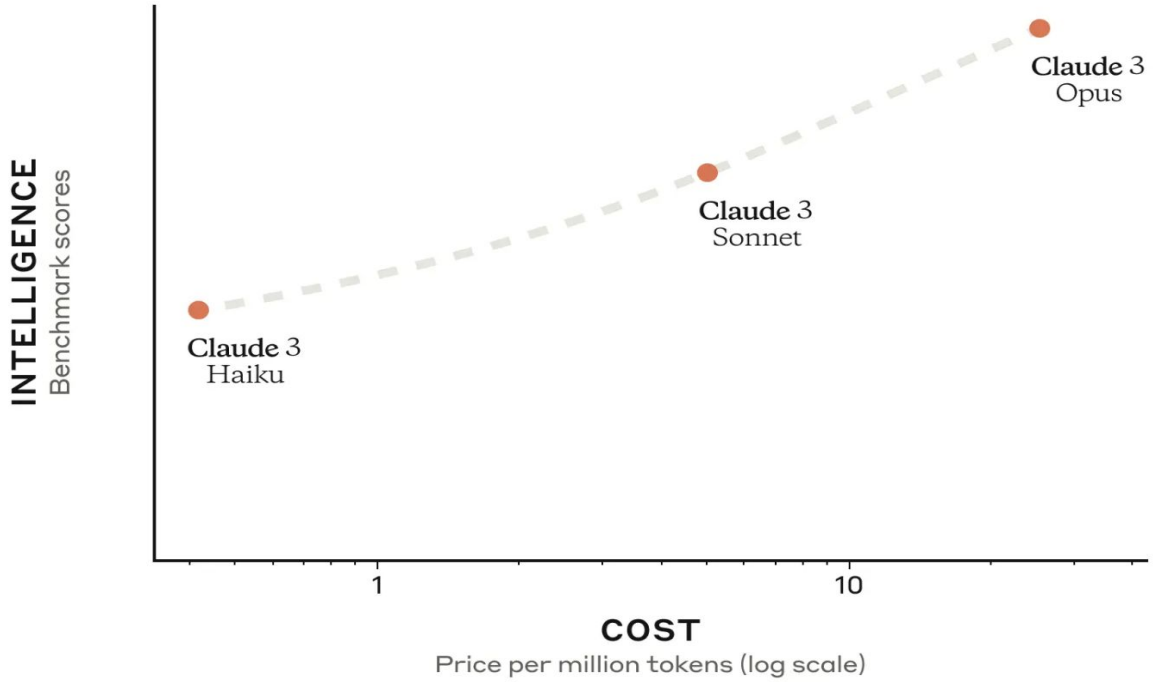




Engineering FAQ Chatbot timeline



Chatbot is based on Claude Family of LLMs



Internal AI Tools - What We've Heard from Staff

A lot of time is spent on admin

Help is needed on laborious on editorial cross referencing and making edits based on AISC standards

Simple things like summarizing emails and creating action items would help

Ability to direct inquiries to the appropriate person

Ability to answer simple questions quickly

AISC Internal AI Tools - Gemini

Used as more of a workspace companion

Summarize emails

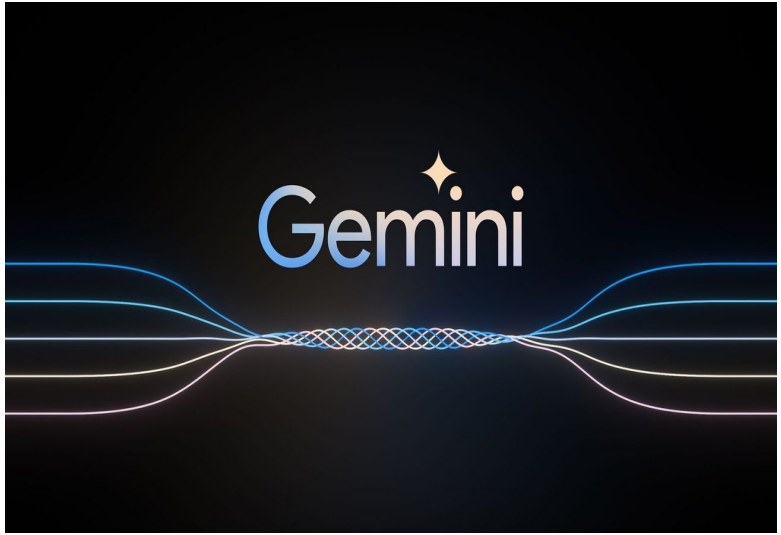
Create action items

Suggest edits

Creates slides, creates spreadsheets, creates templates

Likely used by all staff

Will need policies created for responsible use.



AISC Internal AI Tools - Einstein

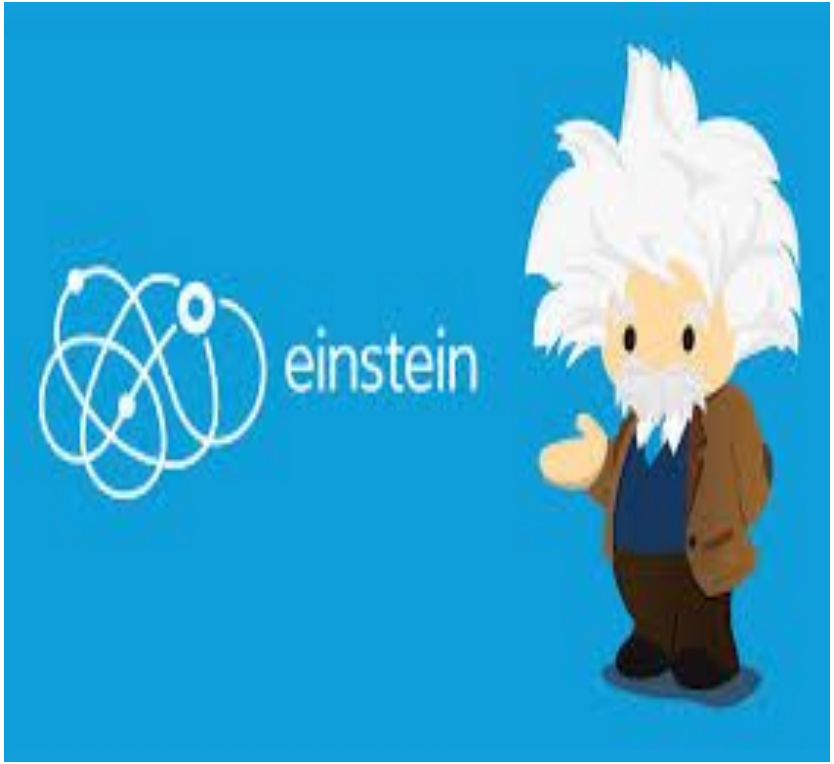
Features Membership and Certification bots for Users

Allows staff to quickly consistently answer inquiries

Useful to select employees with more member interaction

Creates “articles” based on historical responses to expedite response time

Allows review before sending



Fabrication Support

Work with team at Virginia Tech

Conduct comprehensive review of existing AI solutions that could be integrated with steel fabrication

Identify challenges in steel fabrication that can be met with AI

Develop framework for using AI in steel fabrication. Link challenges to existing technologies such as visioning, robotics, GPTs etc.

Relatively fast - 6 month proposal

VT is looking for 8-10 fabricators to talk about the challenges of automation in steel for an hour.

Georgia Tech - Fabricator Survey

Milek Fellowship

Current aim is to develop a dynamic design tool that could be used by engineers

Research need-based

To be built around open and free models

Will feature collaboration and coordination with our FAQ Chatbot development

Aimed to develop professors, not products

CLEMSON UNIVERSITY

Using AI to advance QA/QC

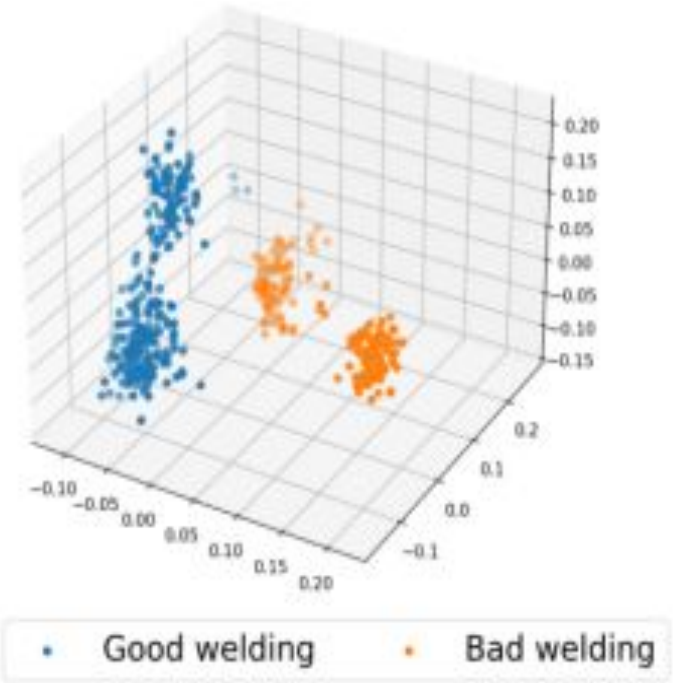
Collaboration with U or Alberta

This has shown promising results, but needs to go further to make a real impact

Utilizes weld-source feedback and AI

Support from Lincoln and other industry partners

Could conceivably incorporate visual AI



Industry Support and Cooperation

Virtually all our software members are looking into some sort of AI solution

They will look for similar support to “model review” initiatives

Develop an environment rich with data and resources for developers

What Else is coming?

- More tools: Estimating, forecasting, productivity, and more
- Even more value is placed on your data and its management
- Constant change/disruption – DeepSeek for example
- Constant improvement – It’s the worst it will ever be today

Meet Clark

https://clark.aisc.org/

ASK AISC

START NEW CHAT | FEEDBACK | LOGOUT

This application is for testing purposes only at this time. Please rate chat bot responses and report any questions or bugs in the Feedback button on the navigation.

Welcome to Ask AISC. I'm here to help you quickly find answers to your questions by directly referencing our technical resources. I can search through them so you don't have to.

What is your question?

Ask a question...

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Introducing Clark

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