

Empowering Special Education With AI: A Path to Enhanced Learning

Ten Reasons to Use AI In Special Education

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Speaker

Dr. Jordan Smith Jr.

- Graduate United States Naval Academy – 1976, 20 Year Marine Corps Veteran
- 19 Years - Mathematics & CS Teacher
- MAED Secondary Education - UOPX
- Doctorate Educational Leadership - Specialization in Curriculum and Instruction-UOPX
- MAED Administration Services Credential- UOPX
- Specialize in Teaching Math To Those Who Have Given Up On Learning & Computer Science for All Integration
- Inclusive Co-Teaching 2017-2019
- Amazon Future Engineer Teacher of the Year May 9 , 2023
- Amazon Future Engineer Teacher Ambassador
- Certified AI Expert, Certified Prompt Engineer, Certified ChatGPT Expert.-Blockchain Council
- NCSM, Uncovering Stories 55th Annual Speaker October 2023
- CCEA,CMC,NCTM.NCSM,CASE
- Author, Motivational

The Role of AI in Special Education

- AI's Capabilities
 - Personalization
 - Accessibility
 - Data-Driven Insights



GPT

Generative
Pre-Trained
Transformer



GPT- Architecture

GPT-1 4.8 GB (Unfiltered) data (2018)



GPT-2 40 GB Human Filtered (February 2019)



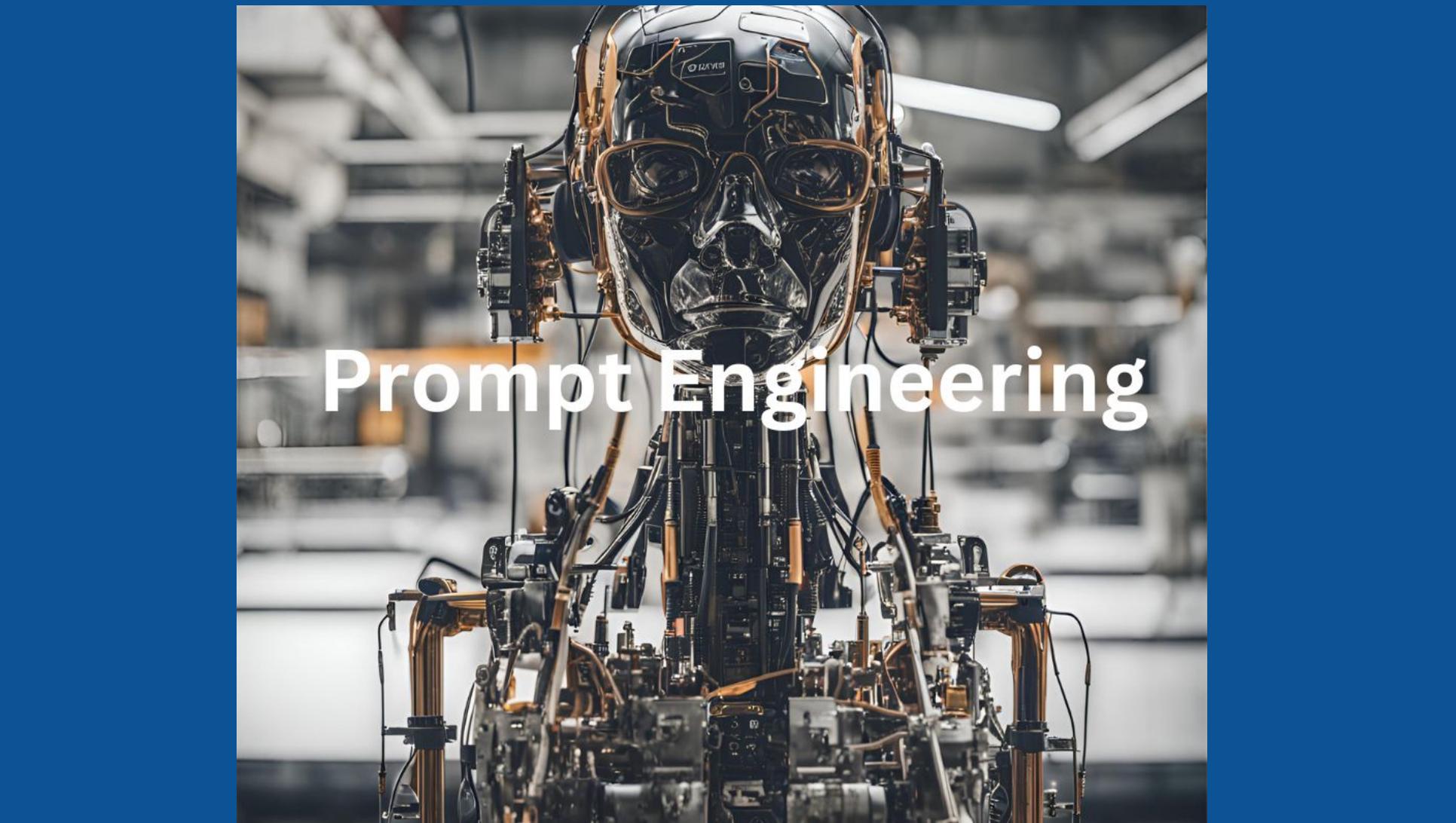
GPT-3 570 GB data filtered from 45TB (June 2020)



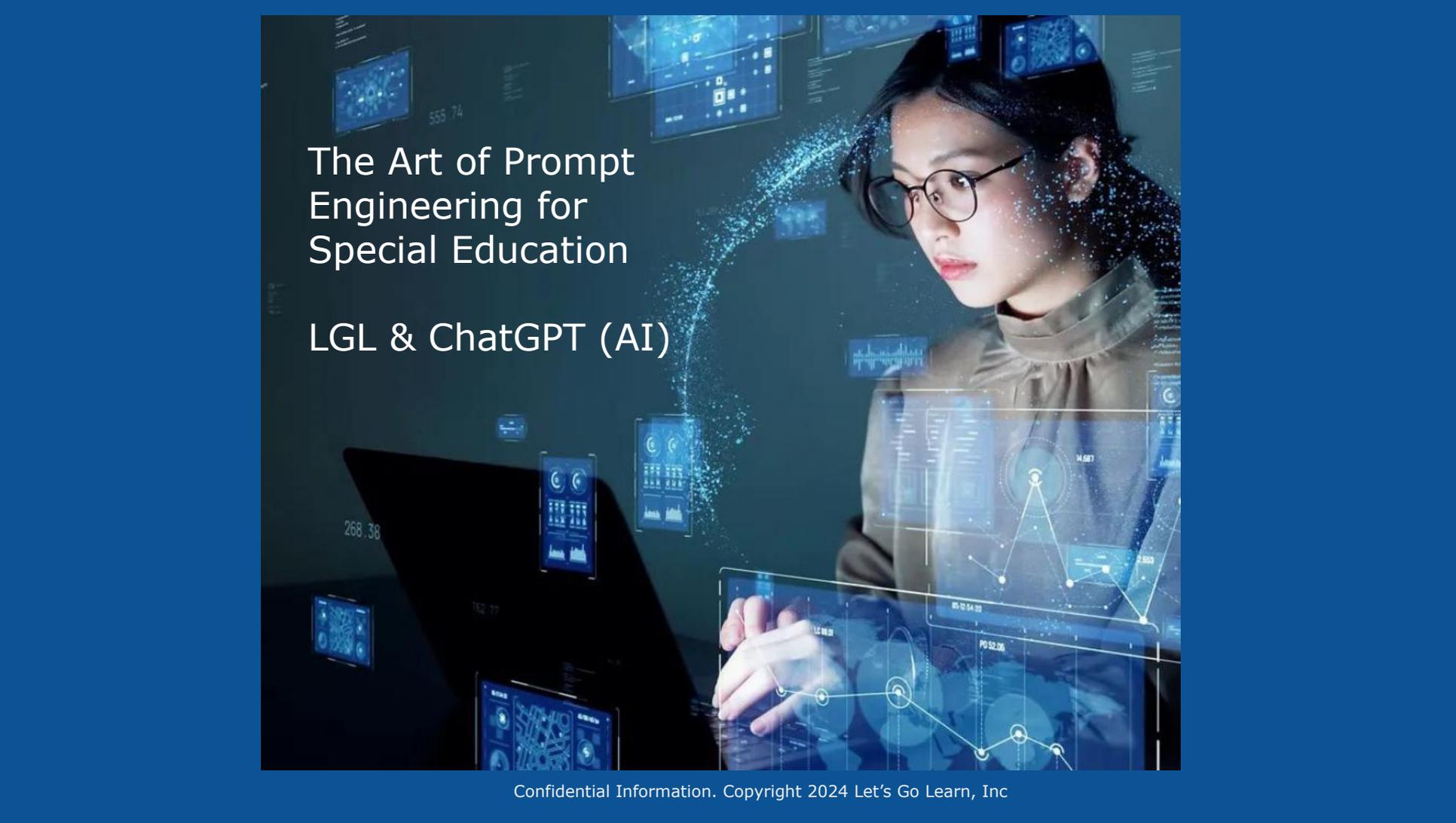
GPT-4 Human demonstrations and annotation
(March 2023)



Data Size
Data Quality

A futuristic robot head with a human-like face, wearing glasses, and a complex mechanical body, set against a blurred industrial background. The robot's head is highly detailed, with visible wiring and mechanical components. The background shows a factory or laboratory setting with various pieces of equipment and lighting.

Prompt Engineering

A woman with dark hair and glasses is looking at a laptop. The scene is overlaid with a futuristic digital interface featuring various data visualizations such as line graphs, bar charts, and network diagrams. The interface is rendered in shades of blue and white, with some elements appearing to float in the air. The background is a solid dark blue.

The Art of Prompt Engineering for Special Education

LGL & ChatGPT (AI)

Our Journey with LGL & AI at Mountain View High School

- November 2022 thru May 2023 - 85 students Enrolled in Control Group
- Full Implementation August 2023-2024 (274 students)
- 100% Math Goals Met for IEP Summary
- AI Investigation (ChatGPT 3-5)(August 2024)
- AI ChatGPT-4.0 (February 2024)
- AI-Mastery BluePrint (April 2024)
- Blockchain Council Certification (Prompt Engineering, ChatGPT, AI)(March 2024)
- Data Mining Curriculum –SBAC Standards Analysis
- CA Framework Analysis
- LGL Diagnostic Data – Analysis for Trends for SBAC



Hi Dr. Smith I hope your having a good trip, I just wanted to email you to say thank you for everything you've done for me these last 2 years at Mountain View. You were a big inspiration throughout my time and one of the greatest bonds/friendships I made here, your highly appreciated and my favorite teacher ever I was very honored to be your student and so glad I met you. I hope we keep in touch after high school so I can bug you anyways, Once again thank you so much for being the best teacher out of my 13 years of school experience and always being a good role model and friend, I hope you keep doing what you're doing because your amazing at it.

What if the Growth Mindset curriculum is not working?



Class of 2023



Class of 2024

Typical Results (LG)

Recent 11th Grader - Came to MVHS with Zero Credits in Math (6h 54m)

DOMA- Pre-Algebra Test Date	1-20-20 23	3-19-2023	<i>In 2 Months</i>
Basic Math (0-5)	0.5	3	
Raw Score (0 to 14)	3.5	9.5	3.5 to 9.5
Pre-Algebra Skills (0 to 9)	3	6.5	
Grade Level Score	5.38	7.06	1.68 Years

Typical Results (MR)

Recent 11th Grader with IEP

Came to MVHS with Zero Credits of Math (43h 5m)

DOMA- Pre-Algebra Test Date	1-17-20 23	3-16-2023	<i>In 2 Months</i>
Basic Math (0-5)	1	4	
Raw Score (0 to 14)	1.5	11.5	1.5 to 11.5
Pre-Algebra Skills (0 to 9)	0.5	7.5	
Grade Level Score	3.71	6.92	3.21 Years

Typical Results (HS)

Recent 11th Grader - Came to MVHS with Ten Credits of Math (12h 50m)

DOMA- Pre-Algebra Test Date	3-6-2023 3	5-22-2023	<i>In 2.5 Months</i>
Basic Math (0-5)	3	4.5	
Raw Score (0 to 14)	9	13	9 to 13
Pre-Algebra Skills (0 to 9)	6	8.5	
Grade Level Score	6.52	7.22	0.7 Years

What Is AI and Prompt Engineering

- AI: Technology that mimics human intelligence, used to analyze complex data.
- Prompt Engineering: Crafting inputs to obtain useful outputs from AI, essential for accurate data interpretation in education.
- Include Additional Precision Diagnostic Data (Present Levels) from systems like Let's go Learn

Ten Reasons for Integrating AI into Special Education

Top 10 Reasons for Integration AI into Special Education

1. Personalized Learning
2. Data Driven Insights
3. Enhancing Accessibility with AI
4. Efficient Resource Management Via AI
5. AI for Improved Student Engagement
6. Early Intervention With AI
7. Round the Clock Support With AI
8. Enhancing Communication with AI
9. Professional Development Powered By AI
10. Scalable Interventions with AI

Reason #1 – Personalized Learning

- Tailors learning experiences to each student's needs and pace.
- AI facilitates the creation of highly personalized learning paths by adjusting lessons to suit individual styles, pacing, and levels, which is crucial for meeting the diverse needs in special education.



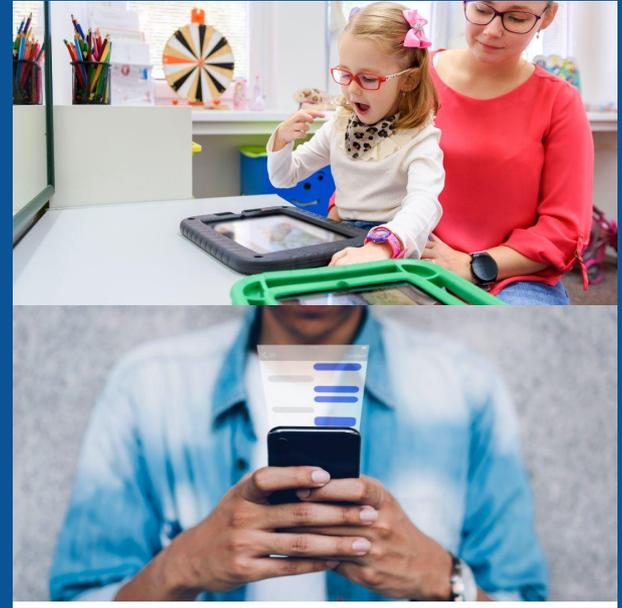
Reason#2 – Data Driven Insights



- AI analyzes performance to identify strengths and areas needing improvement..
- AI empowers educators with in-depth insights into student performance, enabling precise interventions and informed decision-making essential in special education.

Reason #3 – Enhancing Accessibility with AI

- AI provides tools like speech-to-text and text-to-speech to support diverse learning needs.
- AI is pivotal in making education accessible to students with auditory or visual impairments, breaking down barriers to ensure every student can access and engage with educational content.



Reason #4 – Efficient Resource Management Via AI



- AI automates routine tasks, allowing teachers to focus more on instruction.
- AI streamlines administrative tasks, freeing up teachers to dedicate more time to individualized support in special education, rather than being bogged down by paperwork.

Reason #5 – AI for Improved Student Engagement

- Interactive AI tools maintain interest and provide appropriate challenges.
- AI-driven educational tools and games engage special education students in ways traditional methods may not, enhancing learning enjoyment and effectiveness.



Cultural Relevance in Learning Activities

- Importance of Cultural Relevance:
Engages diverse student backgrounds.
- Examples: Incorporating local history and culturally significant problems.

Asset-Based Pedagogies

These teaching methods and practices focus on the strengths of all students and value diversity in culture, language, and other traits. Here are some of the most commonly known terms in this approach to teaching and their key components.

Culturally responsive teaching:

- High expectations for students
- Culturally relevant curricula
- Honoring different communication styles

Culturally sustaining teaching:

- Valuing community languages and practices
- Student and community agency and input
- Curricula rooted in communities' histories



Culturally relevant teaching:

- A focus on student learning
- Cultural competence
- Critical consciousness

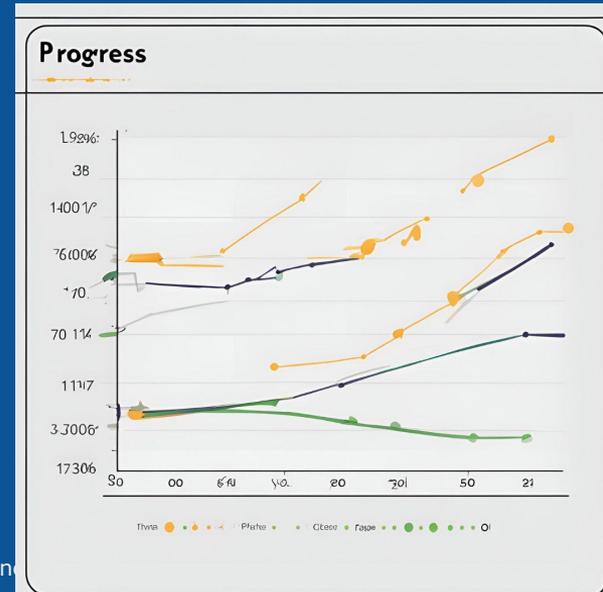
Marginalized communities

“What lies beneath the surface is what the traditional educational system has ignored: the rich wealth of knowledge of those communities, their ways of thinking and being in the world, the languages they speak, and their ways with words.”

—Teddi Beam-Conroy, University of Washington associate teaching professor

Reason # 6 – Early Intervention With AI

- AI identifies learning gaps and developmental delays for timely intervention.
- The ability of AI to swiftly pinpoint learning gaps and delays is invaluable in special education, allowing for prompt and effective support that can alter a student's educational path positively.



Reason #7 – Round the Clock Support With AI

- AI provides learning opportunities and support outside school hours.
- AI offers consistent, 24/7 support, especially beneficial for students needing extra practice outside of school, maintaining learning continuity and reinforcing skills in special education.



Reason #8 – Enhancing Communication with AI

- AI improves communication between teachers, parents, and students.
- Effective communication is essential in special education. AI aids in translating complex educational jargon and facilitates clearer interaction among teachers, parents, and students, ensuring everyone is well-informed about a student's progress and needs.



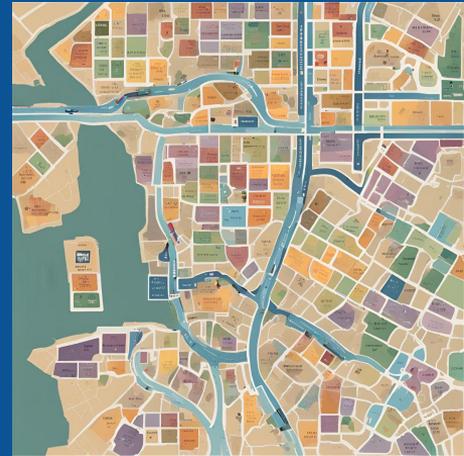
Reason#9- Professional Development Powered By AI

- AI updates teachers with the latest strategies and provides tailored training.
- AI also benefits teachers' professional development, offering training and resources adapted to their learning styles, ensuring they remain at the forefront of educational strategies and tools.



Reason #10 -Scalable Interventions with AI

- AI allows educational interventions to be expanded to reach more students.
- AI's scalability enables educational interventions to be broadly applied, reaching a larger number of students across different settings, vital for the varied needs in special education.



Mathematics Framework Analysis

- <https://chat.openai.com/share/9ca008dd-d3fc-454a-bb3a-e86a6b88b870>
- <https://qrco.de/bf0oso>



ELD Curriculum Prompt Engineering

- <https://chat.openai.com/share/5e8b2abc-1ac5-4244-ae89-38ea22d60598>
- <https://qrco.de/bf0ouP>



Math Not Perfect

- <https://chat.openai.com/share/6de3197b-6e72-4552-9ee0-aeda60442c17>
- <https://qrco.de/bf0ow9>



IEP Summary + Diagnostics Action – General Education

<https://chat.openai.com/share/803607e4-6e11-4faf-ad32-2e4713c30afc>

<https://qrco.de/bf41aV>



SCAN ME

Lesson Planning - Guided Instruction General Education-Arch Project

<https://chat.openai.com/share/6a0f8a4e-3426-4e3e-910d-24a63d320add>

<https://qrco.de/bf41dW>

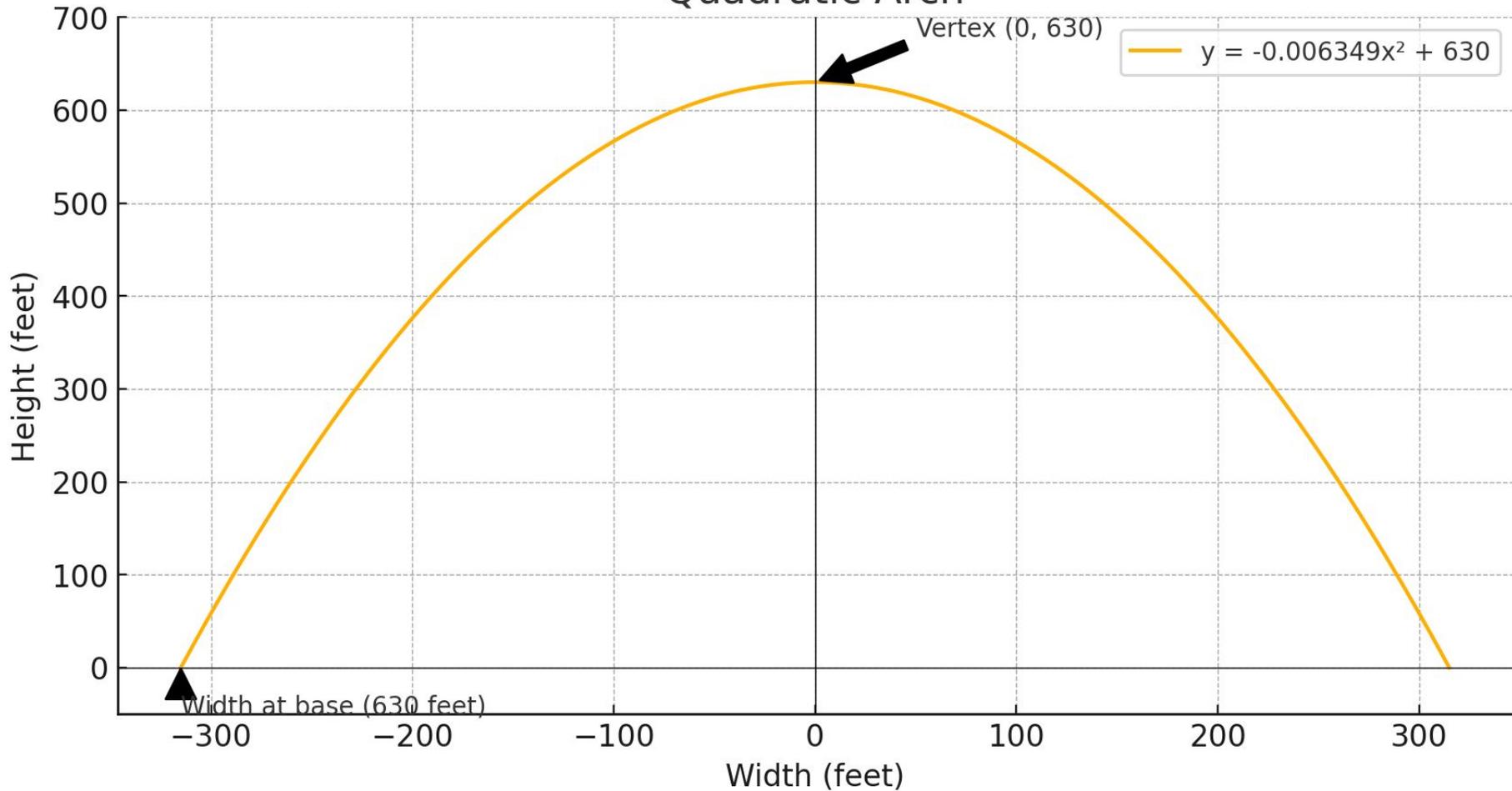


What is a Parabolic Arch?

**How tall and wide is the
Saint Louis Gateway Arch?**

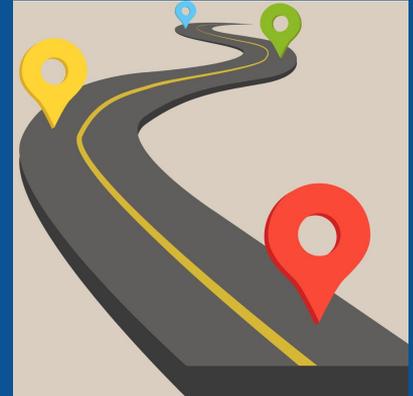


Quadratic Arch



Implementing an AI Training Program: Steps to Success

- Steps include Infrastructure Setup, Professional Development, Continuous Evaluation.
- To maximize the benefits of AI, we require robust digital infrastructure, comprehensive educator training, and a cycle of continuous evaluation and adjustment.



AI in Action: Engineering Prompts for Special Education

- Go to chat.openai.com
- **Prompt for Special Education Teacher:** "Develop a ChatGPT prompt that aids a student with dyslexia in improving reading comprehension, providing real-time feedback and phonetic corrections."
- **Prompt for Resource Teacher:** "Create an AI tool prompt that streamlines the coordination and tracking of IEP goals, ensuring seamless communication among all stakeholders."
- These prompts demonstrate AI's practical application in special education: for direct student support in dyslexia and for streamlined management of IEPs by resource teachers.

AI in Action: Engineering Prompts for General Education

- **Prompt for General Education Teacher:** "Design a ChatGPT prompt that adapts general curriculum content into differentiated paths for students of varied abilities, incorporating visuals and interactivity.
<https://chat.openai.com/share/1f429d7c-27ab-4291-b6b8-d39d9f4e3e89>
- This prompt illustrates how AI supports general education teachers in fostering an inclusive classroom by creating differentiated learning paths that cater to all students, ensuring no one is left behind.

Join Us On This Journey

- Recap of key points, teaser for deeper training, book offer, and feedback invitation.
- Thank you for joining this session. I encourage you to participate in our upcoming training for a deeper dive into AI's potential in education. Please share your feedback on what you'd like to explore in the webinar series, and don't forget, attendees today receive a free copy of my book!

Overview of SBAC-AI Blueprint BootCamp

- **Concept Introduction:** Explain the concept of the SBAC-AI Blueprint and its relevance to modernizing Special Education.
- **Key Components:** Break down the SBAC acronym and explain each component:
 - S: Start With the Assessment Baseline
 - B: Building Fundamental Skills
 - A: Align With SBAC Standards
 - C: Continuous Practice and Review



SCAN ME

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it's Too Late - Limited Time Offer

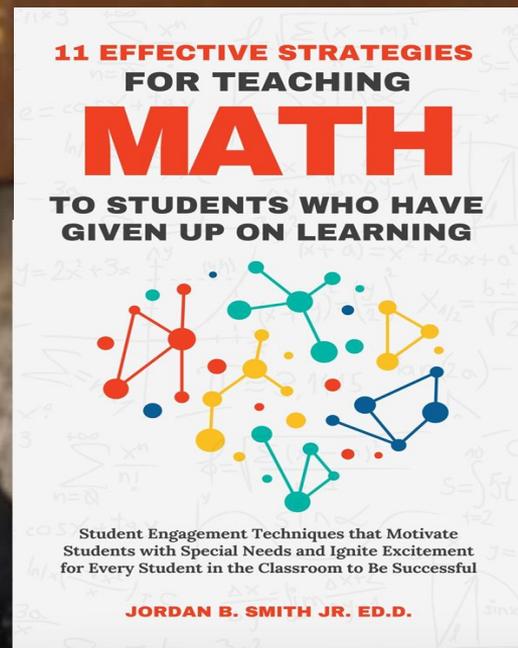
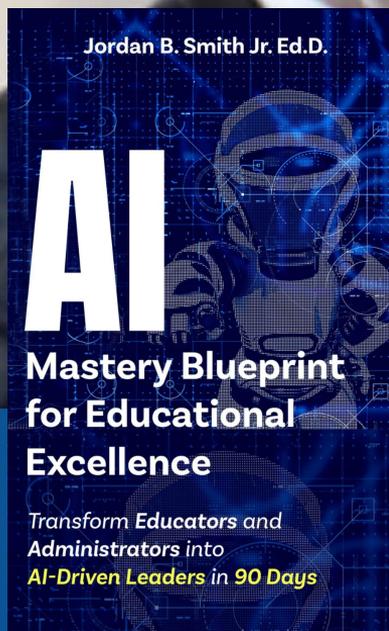
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Thank you!

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Request More Info

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