

Future-Proof Your Career: Unlock the Power of AI

Explore the transformative impact of artificial intelligence on workplace dynamics, productivity, and career opportunities.





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Continuing and Lifelong Education

THE CONSULTING LAB

https://lifelonglearning.ncsu.edu/

Welcome to Our Al Webinar

Exploring AI's Role in the Modern Workplace

Speaker Introduction

Your speaker is an expert in AI and digital transformation with 31+ years of professional experience in consulting, c-suite, and startups.

Webinar Purpose

The goal of this webinar is to explore how AI is reshaping the workplace and what actions to take now.

Importance of AI Today

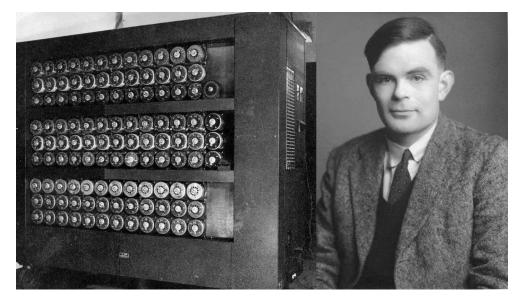
Al is not just a trend; it's a transformative force that is changing how we work and interact.

Engagement and Interaction

Participants are encouraged to engage and share their thoughts on the impact of AI in their industries.







https://pivotal.digital/insights/1936-alan-turing-the-turing-machine

Origins of Al

Al concepts trace back to Turing, who proposed early rules for machine intelligence.

Rule-Based Systems

Initial AI systems were rule-based, relying on predefined algorithms to solve problems.

The Evolution of Al

Tracing the Journey of Artificial Intelligence

Machine Learning Emergence

The evolution of AI saw the introduction of machine learning, allowing systems to learn from data.

Deep Learning Revolution

Deep learning techniques emerged, enabling AI to process vast amounts of unstructured data effectively.

Generative AI Explosion

Since 2022, generative AI has gained prominence, creating content and solutions autonomously.





The Evolution of AI

Tracing the Journey of Artificial Intelligence

Major AI Milestones & Meaning

Emergence of
Data Drivon AT

Rise of Internet	IBM DeepBlue Defeats Chess Champion	Machine learning	ImageNet Database	AlphaGo Defeats World Champion	Introduction to transformers	OpenAI: GPT-1	OpenAI: GPT-2	Ope GPT
Importance: Human knowledge getting exposed on the web. Exponential growth of Data. Use Cases: Web sites Product sales America Online (Internet service provider) Alex: N/A Omar: N/A	Importance: Proof that AI capabilities can be better than humans. Shows improvement in hardware Use Cases: Optimized Problems Brute force algorithms Game development Alex: N/A <u>Omar:</u> N/A	Importance: Learn from data what output to provide. Give the machine data and output and get an algo. Use Cases: Supervised learning Unsupervised learning Clustering Alex: Clustering through Orange Omar: CLustering through Orange.	Importance: First time a computer or a model was able to recognize what was displayed on an image. Use Cases: Large-Scale Image Dataset Computer Vision Deep Learning Revolution Object Recognition Alex & Omat: Machine Learning, Deep Learning, Data Science, Linear Algebra	Importance: Beats a human in the most complex game of GO. 10^170 possible configurations Use Cases: Reinforcement Learning Game AI Deep Neural Networks Strategic Decision-Making Alex & Omar: Machine Learning, Neural Networks, Mathematical Modeling, Calculus	Importance: It transformed AI by allowing faster and more efficient processing of data, leading to major improvements in language understanding, text generation, and working with different types of data. Use Cases: Machine Translation Speech Recognition Text Summarization Search & Recommendations <u>Alex & Omar</u> : Deep Learning, Neural Networks, Linear Algebra, Python	Importance: It showed how powerful large-scale, unsupervised learning with the Transformer model could be, paving the way for more advanced and flexible AI language models. Use Cases: Basic Text Generation Chatbots Sentiment Analysis Code Autocompletion Alex & Omar: Deep Learning, Data Science, Python, MySQL	Importance: It greatly improved text generation, showing the potential of large language models to produce coherent, human-like writing, and raised important ethical questions about their use. Use Cases: Content Creation Conversational AI Fake News Detection Interactive Storytelling <u>Alex & Omar</u> : Deep Learning, Advanced Data Science, Neural Networks	Impor versat a wide with n new s model numer indust <u>Use C</u> AI Wr Code Perso Legal <u>Alex</u> Deep Adva Scier MySi

Source: Omar Abdellatif & Alexandre Gallais <u>https://www.linkedin.com/in/omar-abdellatif11/</u> https://www.linkedin.com/in/alexandre-gallais-3a5528239/



penAI: PT-3

portance: Its vast scale and rsatility allowed it to perform wide range of language tasks th minimal training, setting a w standard for AI language odels and inspiring merous applications across fustries.

<u>se Cases:</u> I Writing Assistants ode Generation ersonalized Tutoring egal & Medical Research

Llex & Omar: Deep Learning, Idvanced Data Icience, Python, 1ySQL

Launch of Stable

Importance: Significant advancement in AI-driven image generation. This model allows for the creation of detailed images based on textual descriptions, showcasing the potential of generative AI in visual content creation.

Use Cases: Marketing and advertising fashion and retail e-commerce interior design Architecture

Alex & Omar: Machine learning computer vision market analysis

2023

OpenAI: GPT-4

Importance: It improved the quality and reliability of AIgenerated text, introduced multimodal capabilities, and made AI systems more accurate and safer for a wider range of applications.

Use Cases: Multimodal AI (Text & Images) Advanced Chatbots Scientific Research Assistance Business & Creative Solutions

Alex & Omar: Deep Learning, Advanced Data Science, Mathematical Modeling

2025

Agentic AI's

Importance:Agentic AI refers to systems capable of autonomous decisionmaking and action execution, often in dynamic environments. These agents can perform tasks without human intervention, adapting to new information and changing conditions.

Use Cases: autonomous operation customer support Smart cities

Alex & Omar: digital transformation AI Ethics reinforcement learning

Operator OpenAI

2025

Importance: Launched in January 2025, OpenAI's Operator is an AI agent capable of performing tasks on the web for users. It interacts with web pages through simulated clicks, typing, and scrolling, enabling it to fill out forms, book travel, and more

Use Cases:

automated web Navigator shopping assitant workflow automation personal task manager

Alex & Omar:

NLP- natural language processing data science and automation descion making and analysis



Transformative Changes in AI Landscape

Understanding the catalysts for rapid AI progress. Why all this urgency now?

Open-source breakthroughs

Recent advancements in large language models and vision models have revolutionized AI capabilities.

Enhanced computing power

The increase in computing power has enabled the training of more complex models, driving innovation.

Abundant data availability

The exponential growth of data has provided a rich resource for AI development and training.

Accessible APIs for developers

APIs have made it easier for developers to integrate advanced AI functionalities into their applications.

Increased business awareness

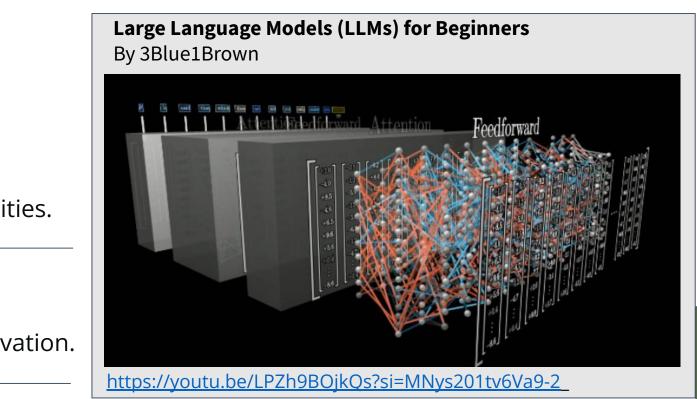
Businesses are now more aware of how AI can create significant value and improve operations.

Exponential user adoption

ChatGPT reached 100M users in just 2 months, showcasing the rapid

acceptance of AI technologies.

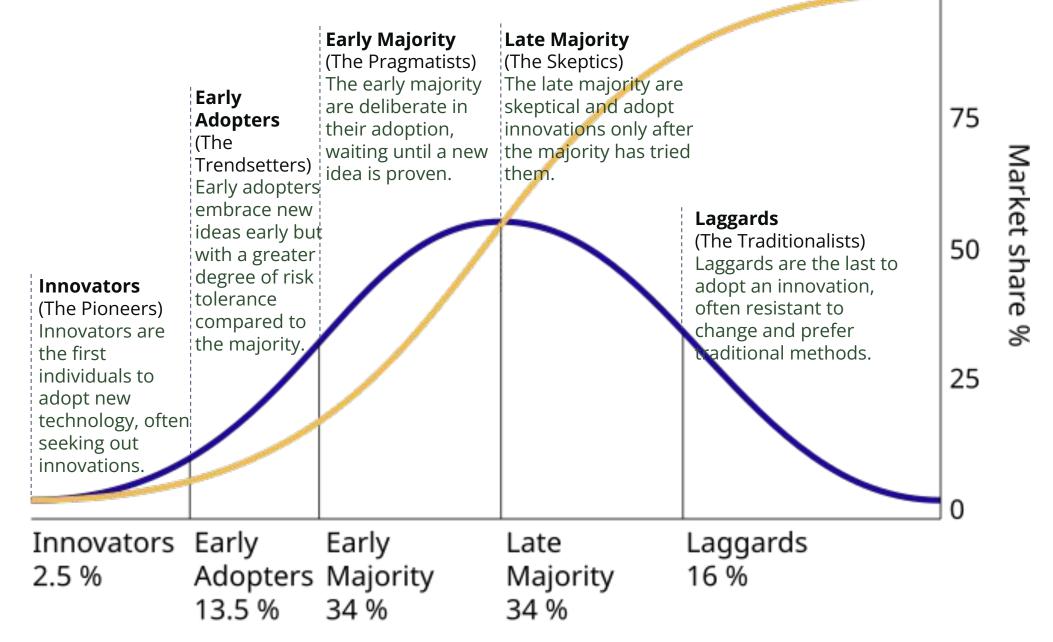






Understanding the Diffusion of Innovation

Exploring Adopter Categories and Reactions to Tech



Source: https://en.wikipedia.org/wiki/Diffusion of innovations

Human Reactions to Technology

Responses to new technology can include fear,

skepticism, and excitement, influencing adoption.

Identifying Your Position

strategies.

Understanding where you and your team fit

on the curve can guide tech adoption

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The Rapid Evolution of Work Dynamics

Understanding the Impact of AI on Job Roles

Al is redefining roles, not just tasks

Artificial Intelligence is shifting how we approach job responsibilities, focusing on enhancing roles rather than simple task automation.

Impact across various sectors

Industries like Marketing, Finance, Customer Service, and Operations are witnessing significant changes due to AI integration.

Predicted dominance of AI-native workflows

In just two years, workflows designed around AI capabilities are expected to become the standard in workplaces.

Quote on the importance of adaptation

"Those who ignore AI may still have a job—just not the same one." This emphasizes the need for adaptation in an AI-driven landscape.





Prompt Engineering – The New Power Skill

Understanding the Significance of AI Instructions

What is Prompt Engineering? It involves creating precise and effective instructions for AI systems to understand and execute tasks. Importance in Various Roles Improving AI Outcomes

Every professional can benefit from mastering prompt engineering, enhancing communication with AI tools.

Strategic, Not Just Technical

It's about developing a strategic mindset to leverage AI capabilities rather than just technical skills.

Enhancing Productivity

Effective prompts can significantly increase productivity by reducing misunderstandings in AI interactions.

Well-crafted prompts lead to better outputs from AI, ensuring that the

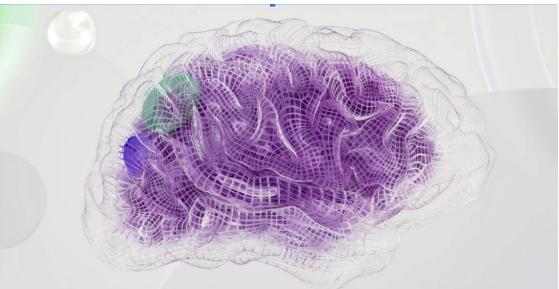
technology serves user needs effectively.

Building Collaboration Skills

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It enhances teamwork as professionals learn to collaborate with AI,

blending human creativity with machine efficiency.



Prompt engineering fosters innovation by enabling users to explore new possibilities with AI.



Exploring Prompt Engineering Techniques

Insights on Marketing and Analytics Prompts

Understanding Marketing Prompts

Distinguishing between good and great marketing prompts requires context, role, and constraints.

Role of Context in Prompts

Context shapes the effectiveness of prompts, guiding them to meet specific marketing goals.

Constraints in Prompt Engineering

Recognizing constraints helps in crafting prompts that are realistic and actionable.

Analytics Prompt Importance

Analytics prompts guide models to derive actionable insights from data effectively.

Actionable Insights from Analytics

Effective prompts lead to insights that can drive strategic decisions in business.

Comparative Outcomes of Prompts

The quality of the outcome improves significantly with smarter prompt

engineering.

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Exploring Prompt Engineering Techniques

Example of a Poorly Written Prompt

ChatGPT 40 >	£G	
	Recommend the top 3 used car to buy	Poor prom Recommend
Sure — here are 3 top used cars that consistently rank high for reliability, value, and features. I'll ke preferences:	ep it general since you didn't specify	
🚑 1. Toyota Camry (2018–2021)		
• Why: Rock-solid reliability, great resale value, comfortable ride		
Bonus: Available with V6 for more power or hybrid for fuel economy		
• Tech: Apple CarPlay, adaptive cruise, safety suite in newer models		
🚔 2. Honda CR-V (2019–2022)		
• Why: Practical, roomy, reliable; great for families or commuting		
Bonus: Tons of cargo space, efficient engine, available AWD		
• Tech: Most trims have Honda Sensing (safety tech), CarPlay/Android Auto		
🚔 3. Mazda CX-5 (2019–2021)		
• Why: Stylish and sporty with tight handling and upscale interior		
Bonus: Turbo trims give you punchy acceleration		
• Tech: CarPlay, blind-spot monitoring, solid infotainment		

Want a sportier drive? Go German. Need 3 rows? I've got a list for that too. Just say the word.

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npt: d the top 3 used cars to buy

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Exploring Prompt Engineering Techniques

Example of a Great Prompt

ChatGPT 40 >

Act as an expert used car advisor. I want a list of the top 3 used SUV models that would be an all around great buy (price, engine performance, all wheel drive, reliability, and reasonable repair costs and 100k miles service costs). My goal is to balance the aspects of all the provided parameters to get the best choice for my family of 4. I mostly do city driving with weekend DIY projects that require hauling material home from Home Improvement stores. I also do the occasional off-road through national parks and forests. While all the parameters are important, exclude vehicles that would cost more than \$30k. Put the result in tabular format.

Here's a curated list of top 3 used SUV models under \$30K that offer the best all-around balance for a family of 4—combining AWD, engine performance, reliability, hauling ability, and moderate long-term costs.

SUV Model	Years to Target	Engine & Performance	AWD & Utility	Reliability & Repair Costs	Why It's a Great Fit
Toyota RAV4 Adventure/TRD	2019–2021	2.5L I4, 203 hp – Smooth, efficient, not a rocket	Standard AWD, off-road capable trims, 3,500 lb tow	Toyota reliability, low repair costs, 100k service under \$1,200 in most cases	Balanced, rugged enough for trails, roomy cargo, top-tier dependability
Subaru Outback Onyx XT	2020–2021	2.4L turbo flat-4, 260 hp – Punchy and responsive	AWD standard, 8.7" clearance, 3,500 lb tow	Excellent AWD engineering, reasonable parts/ labor costs, low cost of ownership	Comfortable family cruiser with hidden adventure chops, surprisingly quick
Honda Passport EX-L	2019–2021	3.5L V6, 280 hp – Strong acceleration and torque	AWD available, 5,000 lb tow, spacious cargo	Honda reliability, typical 100k mile service ~\$1,300, affordable long-term upkeep	Powerful yet practical, great for DIY hauls and road trips, roomy for family comfort

Quick Recap:

- All three have AWD, solid engines, under \$30K, and are known for lasting well past 100k miles.
- RAV4 = Best reliability + decent utility
- **Outback XT** = Best blend of comfort + off-road + turbo fun
- **Passport** = Best for hauling + space + strong V6

Let me know if you want to prioritize sportiness, luxury feel, or fuel efficiency, and I can fine-tune the list.

- Critique prompting
- Comparative prompting
- Compare & contrast prompting
- Act as prompting



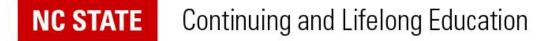
Great prompt:

Act as an **expert used car advisor**. I want a **list of the top 3 used SUV** models that would be an all around great buy (price, engine performance, all wheel drive, reliability, and reasonable repair costs and 100k miles service costs). My goal is to balance the aspects of all the provided parameters to get the best choice for my **family of 4.** I mostly do **city driving** with **weekend DIY projects** that require hauling material home from Home Improvement stores. I also do the occasional off-road through national parks and forests. While all the parameters are important, **<u>exclude</u>** vehicles that would cost more than \$30k. Put the result in tabular format.

Some Prompting Techniques That Are Next Level:

- Chain of thought
- Tabular prompting
- Ask before generating
- Shot prompting





Prompt Engineering Course

Enhance Your Skills in AI with Hands-On Experience

Launch Date

The course will commence on May 21, 2025.

Course Overview

This is a 6-week certification course featuring hands-on labs and integration of AI strategies.

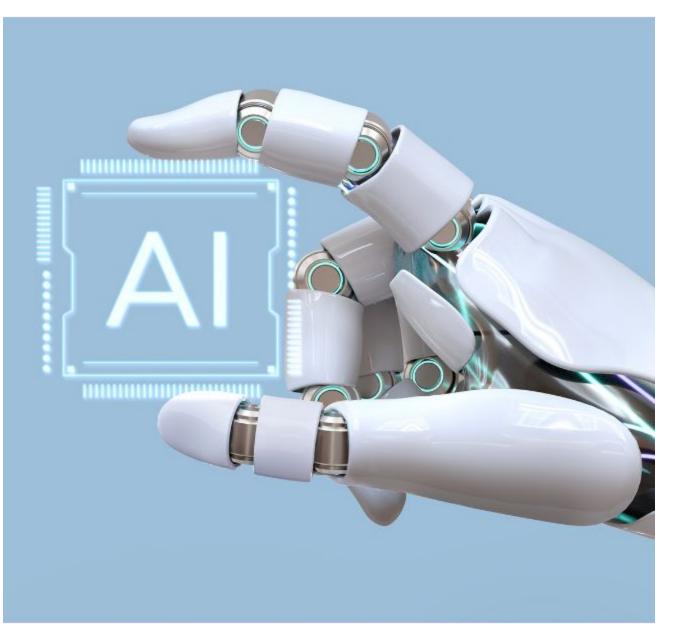
Target Audience

Designed for professionals, managers, and innovators looking to enhance their AI skills.

Enrollment Process

To join the course, visit the NC State website or use the provided QR code.







Take Charge with AI Today

Take The Full Course - 15 hours of Synchronous Learning - Earn a Certificate from NC State Continuing and Lifelong Education

REGISTER - LIMITED TO 15 SEATS ONLY: https://lifelonglearning.ncsu.edu/ai-prompt-engineering/

Al Prompt Engineering

Register now for this exclusive masterclass in AI for career and business transformation.

What You'll Take Away

> Real-World AI

Bridge theory with practical experience, learning from hard-won essons

> C-Suite Strategies

Navigate workplace politics and hierarchies to drive AI adoption. > Industry Deep Dives

Explore AI's impact across healthcare, finance, government, and more

> Proven RO

Discover how AI delivers tangible results: slashing onboarding. letecting fraud, and accelerating transactions

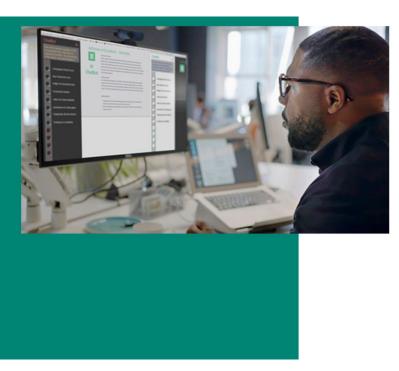
> Insider Insights

Gain cutting-edge knowledge from a startup advisor and mentor. > Everyday AI

Deploy AI to boost productivity, decision-making, and creativity > AI for Everyone

Learn to leverage AI, regardless of your role or company size







Open Floor for Questions



Thank You Q&A

Webinar Slides

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