

Table of Contents

Seminar Description	ix
Seminar Schedule	xiii

SECTION 1

Part 1: An Introduction to Artificial Intelligence	Pages
Preview: Objectives.....	1
Overview.....	1
They Are All Linked, Introduction	2
Technological Revolution, Explosion of Data	3
A Fundamental Truth, Random Stats	4
Big Data, The Progression	5
Setting the Stage, What Is Artificial Intelligence?	6
What Is Artificial Intelligence? Science Fiction Prepares Us for the Future	7
Exploring Viewpoints, Two Key Elements	8-9
A New Tool Set, Building Blocks	10
A Tale of Two Teslas, Nikola Tesla’s Legacy	11
Elon Musk’s Perspective	12
Part 2: AI: Today, Tomorrow, and the Future	
Preview: Objectives.....	13
Artificial Intelligence: Today	13
Artificial Intelligence: Today, Tomorrow, Next Week, Next Month	14
Artificial Intelligence: Next Month.....	15
AI Everywhere, The Future,	16-17
AI Versus Generative AI.....	17

Part 3: Practical Uses for Artificial Intelligence **Pages**

Preview: Objectives.....	19
What Can AI Do?	19
What Can AI Do? Canvas, Medicine, Agriculture	20
Satellite Imagery, In-Field Monitoring, Predictive Analytics	21
IoT in Agriculture, AG Big Data,	22-23
The Farmer’s Alexa, The Bottom Line.....	23
AI Isn’t Perfect, AI and PPT,	24
Some Suggestions That Didn’t Work	25

Part 4: Challenges of Artificial Intelligence

Preview: Objectives.....	27
Challenges.....	27
Google Fires Engineer, LSU Issues Statement.....	28
Chat GPTZero and Plagiarism, AI and Possible Nuclear Catastrophe	29
What Will the Future Hold? Godfather of AI Quits Google, Let’s Stay Positive!	30

Part 5: Artificial Intelligence and the Professions

Preview: Objectives.....	31
The Future: Connecting AI to the Professions.....	31
The Future: World Economic Forum, We Are Living in an Inflection Point	32
The Future: Great Bargain, Gatekeepers, Future of the Professions.....	33
Transformation of the Professions, How AI Is Being Used	34-35
How AI Is Being Used in Journalism and the Legal Profession	34-35
What Should Professionals Do?.....	36

Part 6: Connecting Artificial Intelligence to Real Estate

Preview: Objectives.....	37
AI and Real Estate: Historic Investment in AI Across Industries	37
AI and Real Estate: Keeping Up with Innovation	38
AI and Real Estate: Focus on Brokers	38
AI and Real Estate: The Trends	39

Part 7: Artificial Intelligence and Valuation **Pages**

Preview: Objectives..... 41
Tools of the Future..... 41
Trends in Technology, Trends to Watch For, Cloud Computing 42
Big Data, Risks and Opportunities, Real Time 43
Large Amounts of Data 44
Looking at Appraisal Skillsets, What Is Missing? AI and Skillsets 45
Machine Learning/Intelligent Assistants, AI Technologies, AI and Valuation 46

Part 8: Artificial Intelligence and AVMs

Preview: Objectives..... 47
The Most Prevalent Uses 47
The State of AVMs Today, The State of AVMs (Very) Near Future 48
Accuracy Will Increase and AVM Validation Testing Methods Will Improve 48
Appraisers Working with AVM Technology, AVM Standards and the Future..... 49
AVM Development in Commercial Real Estate..... 49-50
Possible Future of Augmented Appraisals 50

Part 9: Looking to the Future: Solutions to Consider

Preview: Objectives..... 51
A Change in Appraisal Skillsets 51
Using AI to Increase Business, Mobile Technology..... 52
Take Advantage of Augmented Reality 53
CoStar Go and Siri Example 53
Using AI: Automating Search Relevance and Filtering Methods..... 53-56
The Most Likely Scenario 56

Part 10: Practical Artificial Intelligence: ChatGPT

Pages

Preview: Objectives..... 57
It's Time to Talk ChatGPT, Starting with the Basics: Chatbots57-58
ChatGPT vis-a-vis Chatbots, ChatGPT Is But One of Many Bots 59
Introduction: Generative AI 59
What Is Generative AI? 60
ChatGPT: Natural Language Processing, Large Language Models 60
Using ChatGPT: The Basics, Using Prompts: The Basics, 61
Asking ChatGPT to Answer a Silly Question..... 61
Asking ChatGPT to Find Information and to Write Something 62
Asking ChatGPT to Summarize Data and to Review Text..... 63
ChatGPT: The Input..... 63
ChatGPT: The Result, 64
ChatGPT: What, How, Discuss, Explain? Help with Research 64
Writing Meaningful and Effective Prompts for ChatGPT65-66
ChatGPT: Accuracy, Some Concerns About Usage 66
Asking ChatGPT to Discuss Its Limitations, More Limitations 67
ChatGPT: The Concept of Hallucinations, Takeaways 68
Uses of Generative AI 69
Conclusions on Generative AI, 70
Generative AI and Knowledge Workers 70

Part 11: Practical Uses of ChatGPT

Pages

Preview: Objectives..... 71
ChatGPT Prompts 71
ChatGPT Command Prompts, ChatGPT Prompts: Adding Spice 72
ChatGPT: Can It Write in Your Style? How Does ChatGPT Work? 73
Responsibility for AI, ChatGPT: Prompt Universe, 74
What to Do When ChatGPT Forgets to Fully Answer 74
ChatGPT Prompts: General Business, Business Educational, Food and Health . 75
ChatGPT Prompts: Business Marketing, Looking at Appraisal Use Cases 76
Using ChatGPT to Define Neighborhood Boundaries 77
Using ChatGPT to Ask About the Market and to Predict the Future..... 77
Using ChatGPT to Help with a Description and to Obtain Macro Market Data..... 78
Creating the ChatGPT Mega-Prompt78-79
11.1 Interactive Exercise 79
Generative AI and Images, Generating an Image with Generative AI80-82
11.2 Interactive Exercise, Generative AI: Risks and Concerns 83
USPAP Considerations, Takeaways 84
A Quick Jaunt into the GPT 4.0 Model, Bing Chat: Easy to Find85-86
Battle of the Bots 86
Asking about the Current House Market, It's Easy to Follow Up 87
Creating a Picture, Which One to Use? 88
Things to Think About88-89

Part 12: Artificial Intelligence: Evolution or Revolution	Pages
Preview: Objectives.....	91
Using AI to Increase Business	91-92
Steps to Take: Know What Is Happening with AI and Real Estate.....	92
Steps to Take: AI Research	92-93
Transformational Aspects of AI	93
Transformational Aspects: Data Gathering Tools, No Longer Science Fiction. ...	94
JLL Report: What Will Have the Biggest Impact on Real Estate?	94
JLL Findings,	95
AI Is Driving Real Estate Transformation, AI and Innovation	95-96
Trends in AI Investment. Trends in Generative AI	96
Trends in Real Estate with AI, Real Estate and Generative AI.....	97
Adopters of Generative AI Are Seeing Returns	97
What Do the 500 Companies Providing AI Services Do? Conclusions	98
Regulations, Regulations; A Favorite Quote from Snow Crash.	98-99

SECTION 2

Part 13: Disintermediation in the Marketplace: The Rise of Blockchain

Preview: Objectives.....	101
What Is Happening in the Marketplace? The Backstory.....	101
Disintermediation, Decentralization, Changing Business Model	102
Compare/Contrast	103
Disintermediation: Different Landscape.....	103
Effects of Disintermediation on the Financial Services Industry: A Collapse	104
History and Functions of Money.....	104
Effects on Financial Services: What Is Digital Transformation?	104
Disintermediation with Blockchain, What Is Blockchain?	105
Banks and Non-banks Are Moving Swiftly.....	105

Part 14: Blockchain, Bitcoin, and Cryptocurrency	Pages
Preview: Objectives.....	107
What Is Happening in the Financial Services Sector? Topics to Discuss.....	107
What Is Bitcoin? Bitcoin Is Cryptocurrency: Encrypted Digital Currency.....	108
Who Invented Bitcoin and Blockchain?	109
Financial Collapse in 2008: Is Bitcoin a Reaction and a Solution?.....	109
Financial Sector: Relationship Between Blockchain and Bitcoin.....	109
How Did Blockchain Begin?	110
Financial Services: What Does Blockchain Do?.....	110
How Blockchain Works: The Simple Explanation.....	111
Recording Ownership, Land Title	111
Blockchain: The Internet of Value	112
Who Can Use Blockchain?	112
Advantages of Blockchain: What Makes It Secure?	112-113
Advantages of Blockchain: Distributed Ledgers.....	113
Advantages of Blockchain: Cost Effective and Timesaving.....	114
What Is Ethereum? Relationship to Blockchain	114
What Is Ethereum? Perfect for Smart Contracts	114
What Are the Advantages of Ethereum? Ramifications for Property	115
Blockchain: Interesting and Esoteric Uses	115-116
The Big Eight: Open Networked Business Models	117
The Re-Intermediators, Blockchain: Supply Chain.....	117
Blockchain: Animating the Internet of Things	118
Blockchain: The Platform Builders and Payments	118
Blockchain: The Consumer and Bigger, Better Data	118

Part 15: Uses of Blockchain in Real Estate	Pages
Preview: Objectives.....	119
What Does Blockchain Bring to Real Estate Space?	119
Blockchain and Real Estate: Money Transfers	120
Blockchain: Property, Transactions, Title Ledgers; Additional Property Data	120
Blockchain and Real Estate: Smart Contracts.....	121
Blockchain: Benefits to Real Estate	122
Blockchain: Benefits to the Appraisal Profession.....	123
Practical Real Estate: Applications of Blockchain	123
What is Ethereum? What Are Its Advantages?.....	123
Appraisal Data Retrieval: Issues at the Present Time	124
Blockchain in Real Estate: Who Is Using It Now? Future Blockchain	124
Blockchain Technology: Major Issues	125
Blockchain: Challenges for Wider Implementation	125
Blockchain Everywhere: How Much Is Real? How Much Is Hype?.....	126
Blockchain: World’s Major Companies	127
Blockchain: IBM	127
Blockchain: Microsoft, Facebook,	128
Blockchain: Amazon, The Mainstream	129
Trends in Blockchain.....	130-131
Two Examples of NFTs	131
Business Meets Blockchain	132
Conclusions for the Future	132

SECTION 3

Part 16: Artificial Intelligence and the Metaverse	Pages
Preview: Objectives.....	133
What Is the Metaverse? The Spatial Internet–Web 3.0.....	133
The Metaverse: Lots of Content, Moving to Web 3.0	134
The Digital World	134-135
The Metaverse Is Here Today: Playing Games	135
But Those Are Games! Here Is Google Earth!.....	135
Take Me to 4 Privet Lane: The World of Harry Potter, Harry Potter Film Site	136
Futurist Viewpoint: Digital Twin	136
Buying Property in the Metaverse.....	137
What Could We Do in the Metaverse?	137-138
Practical Uses: The Next 5 Years	138-139
Views of the Metaverse, The Book That Started It All	139
In the Last Few Months, Web3: It’s Time to Level Up	140
According to McKinsey and Company	140
What Are Big Players Doing with AI, Blockchain, and the Metaverse?	141
One Practical Manifestation at This Time: Augmented Reality	141
Metaverse Use Cases: Digital Twins, Concerns and Trends	142
Where It All Comes Together: What Does AI Do?	142
Connecting AI and Blockchain: The Emergence of the Metaverse	143

Part 17: Global Conclusions: What Should an Appraiser Do?

Preview: Objectives.....	145
Takeaways: Acquiring Knowledge and Preparing for the Future.....	145
Making the Right Moves: Look at the Big Picture	146
Making the Right Moves: What Can We Expect in the Future?	146
Building a Foundation: The Foundational Texts	146
Additional Resources.....	147
Where Does A.I. Go From Here?	147
Skills Appraisers Will Need to Prosper.....	147
A Viewpoint on the Future	148
Which Tesla Viewpoint Is More Persuasive?.....	148

Overview

Seminar Description

Artificial Intelligence, Blockchain, and the Metaverse: Implications for Valuation is designed to provide both residential and commercial appraisers with a comprehensive introduction to the field of artificial intelligence (AI) and its applications in the appraisal industry. Participants will gain a solid understanding of the history of AI, its building blocks, and the reasons why AI is becoming increasingly essential in data analysis.

In Section 1, Parts 1-12, the class will discover how artificial intelligence began and how it continues to develop. Participants will delve into ways AI can be used in data analysis and see how it can enhance the appraisal process. Generative AI and its applications in the appraisal industry will be discussed. The section wraps up with ChatGPT and how it can be applied to real estate appraisal assignments.

The slides in Section 2, Parts 13-15, present a history and overview of blockchain. They begin with the origins of blockchain, tracing its development from the creation of Bitcoin to its current applications in various industries. The discussion will include the fundamental concepts of blockchain, such as distributed ledger technology, smart contracts, and consensus mechanisms. Additionally, the seminar explores the potential impact of blockchain on the real estate industry, discussing topics like tokenization of property, transparent transactions, and increased efficiency in property management. Participants will be presented with the knowledge and skills necessary to navigate the evolving landscape of blockchain in real estate appraisal.

The seminar wraps up with Section 3, Parts 16-17, which presents the emerging concept of the metaverse and its potential impact on the real estate industry. The class will explore the definition and evolution of the metaverse and discuss its key features, such as virtual reality, augmented reality, and virtual economies. The slides will show the various applications of the metaverse in real estate, including virtual property ownership.

Through examples and interactive exercises, participants will develop a working knowledge of tools such as ChatGPT, a cutting-edge generative AI model, and they will also learn about the challenges and opportunities that the metaverse presents for real estate appraisers. Most importantly, the seminar provides an opportunity to discuss best practices for navigating these new exciting technologies that will make it easier to obtain data and deliver reports faster.

Seminar Objectives

At the end of each section, participants should be able to do the following:

Section 1

- Recognize fundamentals of artificial intelligence and its historical development.

- Understand the building blocks of AI, including machine learning, neural networks, and natural language processing.
- Recognize the importance of AI in data analysis and its potential to enhance appraisal processes.
- Describe generative AI and its applications in the appraisal industry.
- Demonstrate a working knowledge of ChatGPT and its capabilities through practical examples and exercises.

Section 2

- Understand the blockchain technology and its potential impact on the real estate industry.
- Recognize the history and overview of blockchain, including its origins and development, as well as its current applications in various industries.
- Describe the fundamental concepts of blockchain, such as distributed ledger technology, smart contracts, and consensus mechanisms.
- Discuss the potential impact of blockchain on the real estate industry, including topics like tokenization of property, transparent transactions, and increased efficiency in property management.

Section 3

- Understand the skills needed to navigate the evolving landscape of the metaverse in the real estate industry.
- Recognize how the metaverse could impact property valuation and appraisal.
- Discuss how the metaverse will specifically impact participants at all levels of education and the expected changes that are coming.

Learning Enhancements

The seminar has been designed with a variety of elements to enhance your learning experience.

- **Preview.** To give you a taste of what is to come, you will find a *Preview* slide that begins each part. Included on the preview slide are learning objectives to consider as you move through the content.
- **Learning Objectives.** Each learning objective covers essential information you need to know to fully understand the concepts in the seminar. Look them over before the part begins so that you have a frame of reference as you move through

the material. At the end of each part, reread the objectives. Are you able to do what is stated? Do you understand each objective? If not, this is the time to ask your instructor for help or review the concepts that you do not understand.

- **Examples and Exercises.** Supplementing the discussions, we've included examples and exercises to help you visualize and practice what you are learning.
- **Discussion Topics.** Throughout the seminar, there are questions that provide you with additional ideas to consider as you absorb what you are learning

USPAP References

All references to the Uniform Standards of Professional Appraisal Practice (USPAP) are taken from the 2024 edition (Washington, D.C.: The Appraisal Foundation).

Class Policies

- 100% attendance is required. No exceptions.
- Limit use of computers and wireless devices to classroom projects.
- Communicate with business associates during break time instead of class time.
- During class, do not read materials that are not used in class, such as news, email, and local media.
- Silence cell phones and other communication devices.
- Use recording devices only if prior permission has been granted.
- If attending a class offering, refrain from ongoing conversations with those seated near you and other distracting behavior.

General Information

- **Breaks.** There will be two 10-minute breaks during each half-day session unless noted otherwise by the course sponsor. The lunch break is one hour.
- **Attendance sheets** will be distributed during each session of class to verify your attendance during all sessions. 100% attendance is required.
- **Certificates of completion** may be downloaded after completion of the course.

Recommended Textbooks

- *Residential Property Appraisal* (Chicago: Appraisal Institute, 2020)
- *The Appraisal of Real Estate*, current ed. (Chicago: Appraisal Institute)
- *The Dictionary of Real Estate Appraisal*, 7th ed. (Chicago: Appraisal Institute, 2022)
- *Scope of Work*, 3rd ed. (Chicago: Appraisal Institute, 2020)