

AUTONOMOUS AI COURSERA Specialization

Course 1 **Machine Teaching for Autonomous AI**

Teaching enables AI to better acquire skills the same way that it builds skill in humans. This class is about using teaching principles to democratize AI and make it useful for real applications.

Together we will learn how TEACHING is the next era of intelligence. Things that learn need to be taught.

- Course Outcomes**
- At the end of this course, students will be able to:
- 1.1 Describe the concept Useful AI/machine teaching
 - 1.2 Explain the role of teaching in training advanced AI
 - 1.3 Evaluate the benefits and detriments of leveraging human expertise in design of AI systems
 - 1.4 Make an impact
 - 1.5 Differentiate between automated and autonomous decision making systems
 - 1.6 Describe the limitations of automated systems and humans in real-time decision making
 - 1.7 Select use cases where Autonomous AI will outperform both humans and automated systems
 - 2.3 Validate your brain design against existing expertise and techniques for solving problems.

Course Grading	Points	Weight
Quiz: Math, Menus & Manuals	6 pts	10%
Milestone Assignment 1 : Identify a problem to solve	8 pts	10%
Quiz : Applications for Automated & Autonomous Systems	6 pts	10%
Quiz : The Human Factor: Evaluating autonomous AI scenarios	4 pts	10%
Milestone Assignment 2 : Look for human decision-making	8 pts	10%
Milestone Assignment 3 : Storytelling the Solution	10 pts	50%

Week 1 Introduction to Autonomous AI & Machine Teaching	Week 2 Analyzing the Problem	Week 3 Learning the Solution	Week 4 Storytelling
Lesson 1.1: Autonomous AI - The Big Picture	Lesson 2.1: Finding the Right Problems	Lesson 3.1: Autonomous Systems	Lesson 4.1: The Value of Storytelling
Introduction Videos <ul style="list-style-type: none">0.1 Specialization Preview - A glimpse at what you'll learn0.2 Who is this specialization for?0.3 What will you encounter in this course?0.4 The Instructional Team	Video Lecture 2.1 The "Skills Gap"	Video Lecture 3.1 Machine Learning - Algorithms that can learn	Video Lecture 4.1 The Value of Storytelling in Autonomous AI
	Autonomous AI in Action The invisible line on the balance sheet with NOV	Autonomous AI in Action Curve fitting with WOOD	Autonomous AI in Action Building a Drone Laboratory at Bell Flight
	Video Lecture 2.2 The Value of the Problem	Video Lecture 3.2 Deep Reinforcement Learning - Trial and error	Reading 4.2 How to Structure Your Talk
Readings <ul style="list-style-type: none">Course GlossaryCourse Resources	Autonomous AI in Action The devastating effect of downtime with WOOD	Video Lecture 3.3 The Role of Strategy	Discussion Persuasive Stories
	Discussion: The Skills Gap	Quiz 3.3b Applications for Automated and Autonomous Systems	Lesson 4.2: Writing Your Use-Case Story
Discussion: Introduce Yourself	Lesson 2.2: The limitations of automation	Lesson 3.2: Machine Teaching: The next evolution in AI	Autonomous AI in Action A story of process improvement at PepsiCo
Lesson 1.2: What is useful AI?	Video Lecture 2.3 An Introduction to Math, Menus, and Manuals	Video Lecture 3.3 Machine Teaching - Intelligence lives in the design	Autonomous AI in Action The internet of REALLY OLD things at NOV
Video Lecture 1.1 Real Life Examples of Autonomous AI	2.3a Math - Making Predictable Decisions with Control Theory	Autonomous AI in Action Listening to Machines with NOV	Video Lecture 4.4 Components of Storytelling
Reading 1.2 Explore the Basics of Autonomous Systems	2.3b Menus - Searching for the Right Decision with Optimization Algorithms	Quiz 3.5 The Human Factor: Evaluation autonomous AI scenarios	Milestone 3: Storytelling the Solution <ul style="list-style-type: none">Submit your assignmentComplete 3 peer review
Reading 1.3 Your Mindset Profile	2.3c Manuals - The Human Factor in Expert Rules and High-Stakes Decisions	Milestone 2: Identify Autonomous AI Components to Use <ul style="list-style-type: none">Submit your assignmentComplete 1 peer review	
Video Lecture 1.4 The Teacher's Mindset	Quiz 2.4: Math, Menus, and Manuals		
Discussion: Share Your Mindset	Lesson 2.3: Finding AI Solvable Problems		
Reading 1.5 For Fun - Would you like to play a game?	Video Lecture 2.5 Interviewing Skills: The Teacher's Toolset		
	Reading 2.6 Structured Interview Questions		
	Milestone 1: Identify a Problem to Solve <ul style="list-style-type: none">Submit your assignmentComplete 1 peer review		