AI, Business, and Society
Course Syllabus
Prof. Kartik Hosanagar

Overview: The course provides a overview of AI and its role in business transformation. The purpose of this course is to improve understanding of AI, discuss the many ways in which AI is being used in the industry, and provide a strategic framework for how to bring AI to the center of digital transformation efforts. In terms of AI overview, we will go over a brief technical overview for students who are not actively immersed in AI (topic covered include Big Data, data warehousing, datamining, machine learning, etc). In terms of business applications, we will consider applications of AI in media, Finance, retail, and other industries. Finally, we will consider how AI can be used as a source of competitive advantage. We will conclude with a discussion of ethical challenges and a governance framework for AI. No prior technical background is assumed but some interest in (and exposure to) technology is helpful. Every effort is made to build most of the lectures from the basics.

Textbook: A Human's Guide to Machine Intelligence by Kartik Hosanagar

Lectures

Session	Content	Format	Readings/Book Chapter
1	• AI for Business Course Intro • Is AI a General Purpose Technology? • Basics of Big Data and data infrastructure • Guest speaker 01: Opportunities in AI	Live Zoom session	
2	Module 01: Intro to Big Data and AI • Big Data Overview (10 min) • Big Data Analysis (6 min) • Data Infrastructure, Interview with Chris Child, Snowflake (10 min) • Data Analysis: Extracting Intelligence from Big Data (11 min)	Asynchronous Recorded videos	
3	Module 02: Machine Learning • Quiz 01 • Artificial Intelligence Overview (10 min) • Machine Learning Overview + Types of ML (16 min) • Accuracy of ML models (8 min) • Specific ML Methods: A Deep Dive (23 min)	Asynchronous Recorded videos	Chap 04, 05 of textbook
4	• ML in Practice • Intro to Google Colab and Jupyter Notebook (Run code live)	Live Zoom session	Neural networks (20 minutes)

5	• Quiz 02 • Model Selection and Validation • Business applications • Guest speaker 02: Applications	Live Zoom	
6	Module 03: Business Applications of Machine Learning • ML in Personalization • Recommender Systems (14 min) • Impact of recommenders on markets (12 min) • Challenges with personalization (8 min)	Asynchronous Recorded videos	Chap 03 of textbook
7	ML Applications: Finance • ML in Finance: Fraud Detection (11 min) • ML in Finance: Additional applications (9 min) • ML in Finance: JPM interview (7 min) ML Applications: AVs • Autonomous Vehicles (AVs): Enabling technologies (11 min) • AVs: Market adoption and barriers (8 min)	Asynchronous Recorded videos	
8	• ML Applications Recap • Guest speaker 03: AI applications • Overview of AI simulation game • Quiz 03	Live Zoom Session	
9	• Risks with AI (11 min) • AI Governance (18 min) • Video presentation	Asynchronous Recorded videos	Chapter 10 of textbook
10	Module 04: AI Strategy and Governance • AI Strategy and Governance (agenda) • AI-Driven Business Transformation (4 min) • Developing a Portfolio of AI Projects (17 min) • Lowering Barriers for AI Use (5 min) • Interview with Apoorv Saxena, Head of AI at JPM (6 min) • AI in the Organization Structure (6 min)	Asynchronous Recorded videos	HBR Article
11	• AI Simulation Game • Quiz 04	Live Zoom Session	
12	• Project presentations	Live Zoom Session	

	• Trends in AI: AI interpretability & AutoML • Course takeaways		

Course Calendar:
Note that we are course A4 below and each 3-hour class corresponds to 2 sessions above

Grading

1. In-class quizzes: 4*20= 80 points
2. Group project (groups of 4-5) = 20 points
    a. The scope of the project can vary from being a business plan, a survey, or a case-based analysis of an AI-related company or business issue. Sample projects from previous years will be posted on the website.
    b. Your final deliverable can be a brief position position (4-5 pages single spaced) or a set of slides.
3. Participation (attendance + keeping up with readings) is a necessary for a Pass grade independent of the numerical grades in the above components