AIGC-5004

Project Management in AI

AI ETHICS AND CYBER SECURITY

PROFESSOR
RADCLIFFE (RAD) DOCKERY

HUMBER

WE ARE HUMBER

AGENDA

Intro & Basics

- **Course**
  - Professor and Class Introduction

- **Content**
  - A Business Executive view on AI
  - Artificial Intelligence, Deep Learning, Machine Learning
  - Big Data’s Failure and the promise of AI
  - Key AI Stakeholders

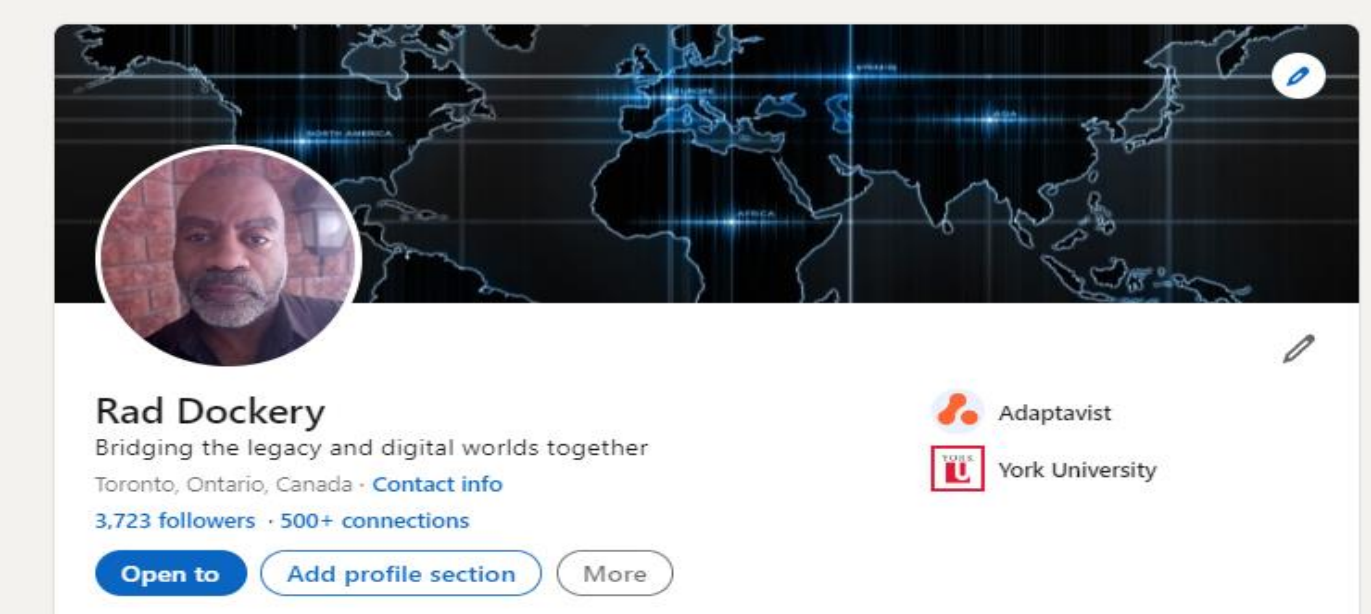
Introduction

Our Weekly Plan

-	READING WEEK || --> || TRANSITION TO Artificial Intelligence Ethics in Projects					
	Intro & Course Overview	1	Introductions Defining Artificial Intelligence, Machine Learning, Deep Lear The Business Executive view of Artificial Intelligence Big Data's failure and AI bias Key Stakeholders for successful AI project implementation		In-Class Lecture	
	The Social impact of AI/Machine Biases	1,3	Discuss examples of AI Bias AI and Gender Inequality AI and Cultural Discrimination Socio-Economic impact of AI Bias	Separate into groups	Lecture & Lab	-
	Industry & Business areas impacted by AI biases	1,2,3	AI biases and their impacts in the following sectors: Public Sector, Finance, Technology, Legal, Supply Chain AI Biases and their impacts in the following business areas: Human Resources, IT, Finance, Marketing, Operations	Separate into groups	Lecture & Lab	
	Approaches to addressing AI Discrimination	1,2	Reviewing your initial Project Plan for Gaps Building a group of stakeholders Obtaining Executive Buy-in Review Software packages and tools Vendor Management and the PMO Effective Measurement	Share Assignment Details & review possible deliverables	Lecture & Lab	ASSIGNMENT-1 (BETA)
	The Challenges of AI in the era of Cyber Security	1,2,3,5	Who should care within your Project Team Most common AI based cyber security attacks The role of AI discrimination in cybersecurity Cyber security and Deep Fakes AI and Cybersecurity - the new battlefield		Lecture & Lab	
	Approaches to addressing AI Security	1,2,3,5	Review Software and Programs How leading cloud providers address AI Security Why a diverse helps address AI Security How the PMO can account for AI Security Risks The role of managing legacy systems in AI Security The importance of a BCP, DRM plan	Evaluation of Software and Cloud Tool. Develop other approaches.	Lecture & Lab	Quiz
	AI Biases and Security Use Case	3,4	Review modern day use cases: One use case focused on Industry Another use case focused on Business Function How technology leaders should communicate to Lines of Bus		Lecture & Lab	ASSIGNMENT-1 (DUE)

Introduction to Me

Get to know the professor.



https://www.linkedin.com/in/raddockery/

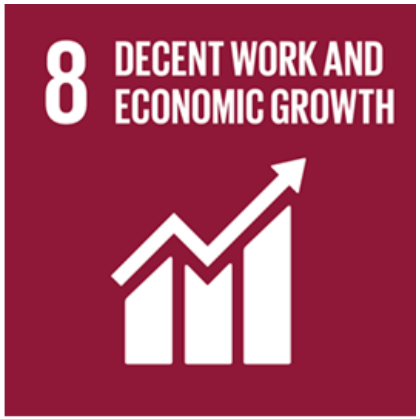
Introduction

26 Years in the Information Technology Sector within the TELUS, IBM, Microsoft, Cisco, AWS, Google, HP, Salesforce.com, Kubernetes, Software AG and SnowFlake ecosystems.

- Technical Sales & Distribution
- Cloud Migrations and Management
- Legacy System Modernization
- AI and Data Analytics
- DevOps and Micro services
- Business and Technology experience in:
  - Canada
  - United States
  - Singapore
  - Hong Kong
  - United Kingdom
  - Botswana
  - Indonesia
  - Malaysia
  - Czech Republic

My Hobbies and Interests

Why do I care about this topic?



Introduction

Source: The Matrix (1999)

Contacting the professor.

Two methods:

Response within 24-48hrs

Response in 48-96hrs

Radcliffe.dockery@humber.ca

Introduction

My Principles & Expectations:

- **Principles**
  - We are always learning
  - Debate and disagreement is never personal
  - The world moves fast, don't be a rush a keep up
  - Humanity first,

- **Expectations**
  - **Believe** that **you** will lead AI projects that will bring a **+ve change****
  - Empower each other if any of you are struggling
  - Ask questions of any kind, no question is "stupid"
  - Show respect to everyone & be kind (to fellow learners & prof!)
  - Assume responsibility of your actions and follow-up
  - Communicate any delays or late submissions in advance!
  - Check Blackboard & MS Teams Channel every week

AGENDA

Intro & Basics

- **Content**
  - A Business Executive view on AI
  - Artificial Intelligence, Deep Learning, Machine Learning
  - Big Data’s Failure and the promise of AI
  - Key AI Stakeholders

- Lab Activity

AI from the Executive Level

- Business Leaders are focused on the bottom and top line.
  - Increasing Revenues and/or Reducing Costs = PROFIT
- AI is often viewed a way to reduce costs or improve customer/stakeholder experience.
- AI needs to help transform data into information
- AI Projects have to be approved and paid for by business leaders, thus you **MUST BE ABLE TO COMMUNICATE THE VALUE OF ANY AI PROJECT IN CLEAR, CONCISE BUSINESS LANGUAGE**

Let's elaborate on the last point

Top Challenges facing CEOs

AI must mean Business

As discussed in first half of this course. Projects have the following outline.

- **Goal:**
  - Desired outcome of project
- **Timeline:**
  - Start and end date for project, key milestones
- **Budget:**
  - Money allocated for project, how it will be spent
- **Stakeholders:**
  - Parties interested or affected by project
- **Project manager:**
  - Responsible for planning, executing, & completing project

Real Life Use Case

Challenge

- Insurer running core applications on Legacy Systems
- Currently unable to integrate new core systems into new mobile applications for broker network.
- Unable to provide real time integration and information to brokers, clients and staff.
- Over 80% of Web Traffic is driven by Mobile in their market.

Technology team suggests an AI Tool to help capture more information about customers, to ensure more growth.

Can you guess what the problems with this approach were?

AI Must Make Dollars and Sense

- Align AI or any technology initiative with the needs to your business.
- Take the time to understand any business process, technology, operational and cultural barriers within the organization.
- Read press reports, pay attention to the what Business Leaders are discussing both internally and externally.
- Translate technical into Dollars and “Sense”

Real Life Use Case – The Answer

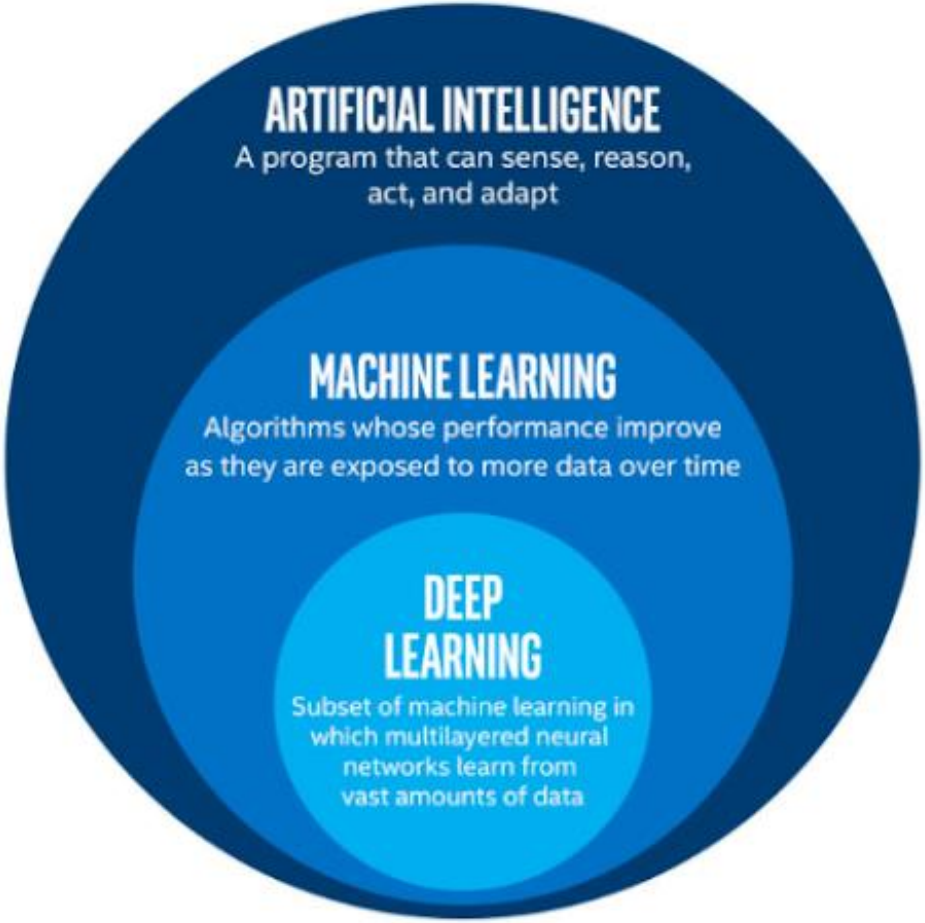
Provided a solution enabled an interface between Web and the legacy system that improved broker face time with **clients by up 45%** .

Staff productivity increased by **15%** since Brokers can now see ALL OF THE DATA vs. just some of the data.

Client estimates savings of up to **$2.5M annually by reducing cost of software, labour and administration.**

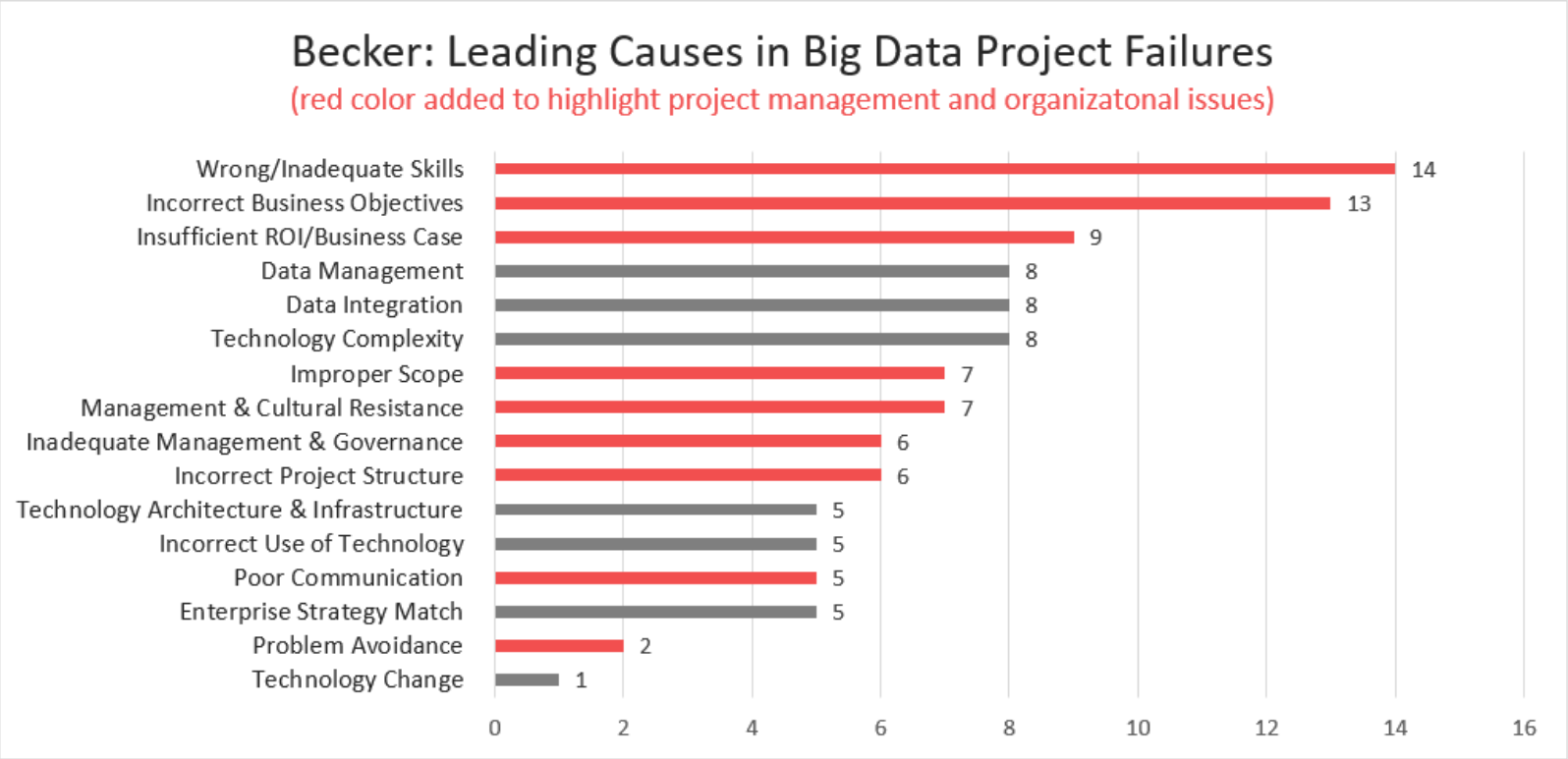
<u>Now, they using the data to build Machine Learning models to create automated offers for clients to improve retention</u>.

Explaining the realms for AI to Non Technical Leaders



https://builtin.com/machine-learning/what-is-deep-learning

The Failure of Big Data



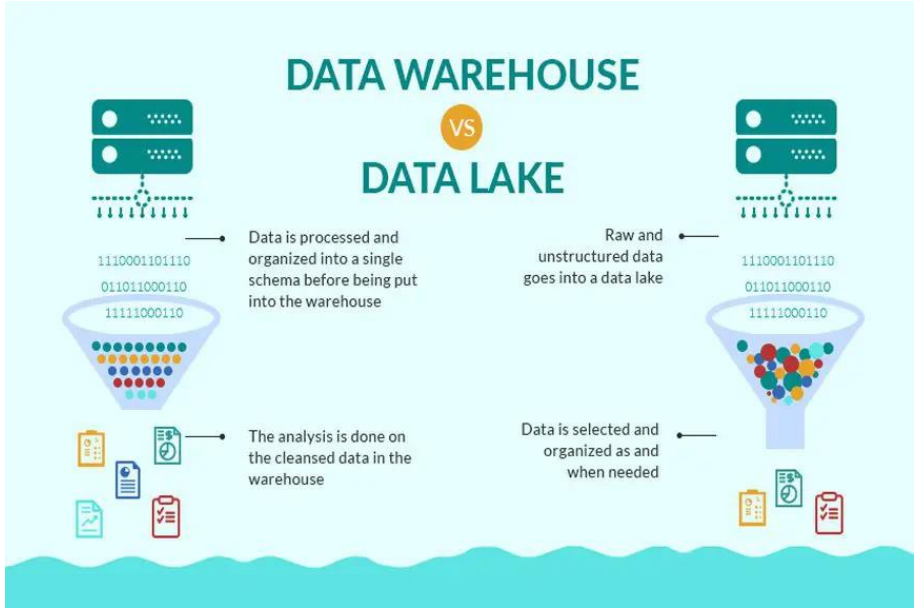
https://www.semanticscholar.org/paper/Predicting-outcomes-for-big-data-projects%3A-Big-Data-Becker/549c6a8b81594ee77ae88b406a1945e0f1fba711

Data Warehouses and Lakes yet...

85% of big data projects fail (Gartner, 2017)

87% of data science projects never make it to production (VentureBeat, 2019)

“Through 2022, only 20% of analytic insights will deliver business outcomes” (Gartner, 2019)



Key Reasons for this failure

- **Not having the Right Data**
- **Not having the Right Talent**
- **Solving the Wrong Problem**
- **Forgetting Ethics**
- **Overlooking Culture**

AI can fix these issues HOWEVER…

We have to account for biases, discrimination and the absence of key datasets.

We must align AI with the needs of the business.

We must understand that technology is only one part of the solution

Key Stakeholders for AI Projects

- **Technology teams**
  - Infrastructure
  - Software, Middleware
  - Developers, Programmers
  - Security & Network Administrators
- **Business Operations**
  - Legal
  - Compliance and Industry
  - Finance
  - Customer Service/Sales
  - Marketing

“Non-Traditional Stakeholders”

- **Human Resources**
  - Talent Management
  - Compensation and Payroll
  - Strategic Planning

- **Front Line Staff**
  - Varies by Industry
  - Health: Nurses, Office Managers
  - Construction: Unions, Skilled Trades
  - Manufacturing: Plant Workers

Cultural and Language Diversity groups

We now have the basis for the rest of the course

- When we understand what matters to the business, we understand how to link technology as an enabler vs. a cost
- To obtain maximum benefit to the business, we must look at how datasets, and AI itself can accelerate discrimination, bias and threaten security.
- The Project Management Office can we viewed as the key enabler to bridge these areas.

Next Week

AI Bias and its impact on Projects, Business Results

AI’s role in Gender and Cultural Discrimination.

The Social and Economic Impact of Bias

HUMBER

WE ARE HUMBER