TEXAS McCombs

The University of Texas at Austin
McCombs School of Business

POST GRADUATE PROGRAM IN

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING: BUSINESS APPLICATIONS

Delivered in collaboration with: **greatlearning**
Power Ahead

About the Program

Hundreds of online courses exist today. What many of them lack, however, is a commitment to helping you translate your knowledge into something tangible - the ability to excel and grow as an AI/ML professional.

To tackle this, the PGP-AIML has been designed to give you the academic rigour, learning support, and peer interaction of a full-time course with the flexibility of an online program.

The program uniquely combines a comprehensive curriculum, covering the most widely-used tools and techniques in the industry, with a hands-on learning approach. A structured learning journey keeps you on track throughout as you achieve your weekly learning milestones with your mentor and benefit from their rich professional experience.

Following a "learn by doing" pedagogy, the program offers you the opportunity to apply your skills and knowledge in real-time every week through interactive mentor-led practice sessions, quizzes, assignments, and hands-on projects. As you do so, you come to truly appreciate the nuances of data and build your portfolio in the process.

On a whole, the program empowers you with the skills, body of work, and job market insights you need to find the right career opportunities or lead AI and ML in your current organisation. All this comes with the credibility, global advantage, and academic leadership of McCombs School of Business at The University of Texas at Austin.

Format
Online (Recorded Video Lectures + Interactive Mentored Learning)

Duration
6 Months

Time Commitment
5-7 hours per week

Learning Support
Dedicated Program Manager + Industry Mentor

Projects
8+ Projects

The UT Austin Advantage

Founded in 1883 and home to more than 51,000 students and 3,000 teaching faculty, the University of Texas at Austin is one of the leading public universities in the United States. The UT Austin name is globally recognised as a leader in the domains of science, business, technology, and social science.

With a proven track record of successes, cutting-edge research and teaching methods, you can be confident that you are learning from the best of the best.

#4 IN BUSINESS ANALYTICS

QS Business Analytics Ranking 2020

Key Facts about Artificial Intelligence and Machine Learning: Business Applications

- **Between 2015 and 2018, the number of job postings with "AI" or "Machine Learning" increased by nearly 100%.** *Indeed, 2018*

- **AI was among the top 5 in-demand hard skills in 2019.** *LinkedIn, 2019*

- **The global machine learning market is expected to grow from USD 1.41 billion in 2017 to USD 8.81 billion by 2022.** *Research and Markets Report, 2017*

- **86% of executives at fast-growing companies say AI is important to their company's success.** *Cognizant Report, 2018*

Showcase Your Competence with a UT Austin Certificate

The University of Texas at Austin

Conferred to attest that

JOHN SMITH

has successfully completed the

Post Graduate Program in
Artificial Intelligence and Machine Learning:
Business Applications

June 2020

Gaylen Paulson
Associate Dean and Executive Director
Texas Executive Education

Kumar Muthuraman, Ph.D.
Faculty Director
Post Graduate Program in Artificial Intelligence and
Machine Learning: Business Applications
Texas Executive Education

Who is the program for?

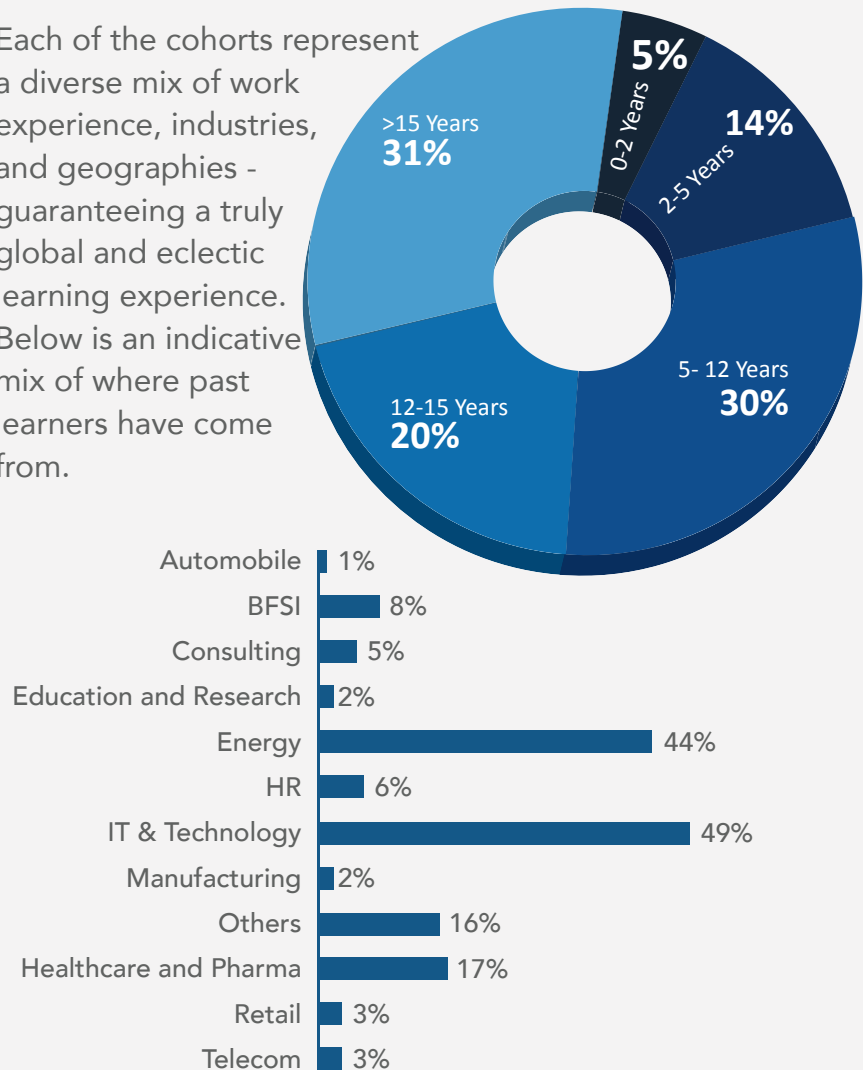## The program is for you if, you:

- Aspire to build a technical career in AI and Machine Learning.

- Like solving complex problems in a structured manner.

- Are comfortable in dealing with advanced algorithms.

- Have prior programming experience and want to learn Python.

- Want to build AI/ML solutions integrated into tech infrastructures.

- Wish to learn advanced AI, ML and Deep Learning techniques, and their applications.

Overall, the program will help you:

- Lead the implementation of AI in your current role or company.

- Transition to a tech career in AI and Machine Learning.

Past Learner Profiles

Each of the cohorts represent a diverse mix of work experience, industries, and geographies - guaranteeing a truly global and eclectic learning experience. Below is an indicative mix of where past learners have come from.

Donut chart: 0-2 Years 5%, 2-5 Years 14%, 5-12 Years 30%, 12-15 Years 20%, >15 Years 31%

Bar chart:
- Automobile 1%
- BFSI 8%
- Consulting 5%
- Education and Research 2%
- Energy 44%
- HR 6%
- IT & Technology 49%
- Manufacturing 2%
- Others 16%
- Healthcare and Pharma 17%
- Retail 3%
- Telecom 3%

The Best of Industry and Academia

The program brings together the best academicians and industry experts to give you a practical understanding of core concepts. While varied in their experiences, they are all motivated by the common goal of inspiring a love for AI and Machine Learning in you.

Faculty Profiles

Dr. Kumar Muthuraman
Faculty Director, Center for Research and Analytics, McCombs School of Business, The University of Texas at Austin. H. Timothy (Tim) Harkins Centennial Professor. M.S & Ph.D., Stanford University.

Dr. Dan Mitchell
Assistant Professor, McCombs School of Business Ph.D., The University of Texas at Austin.

Dr. Abhinanda Sarkar
Academic Director, Great Learning B.Stat & M.Stat, Indian Statistical Institute. Ph.D., Stanford University.
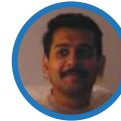
Prof. Mukesh Rao
Consultant, Big Data & Machine Learning.

Dr. Amit Sethi
Faculty, Image Processing and Machine Learning. M.S and Ph.D., University of Illinois at Urbana-Champaign. B.Tech, IIT Delhi.

Dr. Sunil Kumar
GM - Engineering Innovation. Ph.D in Computer Science

Mentor Profiles

Evans Otalor
Data Science Consultant,
Sterling

Diana Pholo
Data Scientist,
PREDICTIVE INSIGHTS

Ram Thilak Prem Kumar
Data Scientist
Mercedes-Benz

Amarjeet Sahoo
Lead-Data Science, Pricing & Promotional Strategy
JCPenney

Gokul Krishnaa
Machine Learning Developer
SAP

Helge Reikerås
Data Scientist
OFFER ZEN

To access more mentor profiles and details on the mentored learning model, please get in touch with a Program Advisor at **aiml.utaustin@mygreatlearning.com**

Course Curriculum

Fundamentals of AIML

Python is an essential programming language in the tool-kit of an AI & ML professional. In this course, you will learn the essentials of Python and its packages for data analysis and computing, including NumPy, SciPy, Pandas, Seaborn and Matplotlib.

Sample Project 1:
Perform exploratory data analysis to understand the popularity trends of movie genres and to figure out the patterns in movie viewership.

MODULE 2

Supervised Learning

The aim of Supervised Machine Learning is to build a model that makes predictions based on evidence in the presence of uncertainty. In this course, you will learn about Supervised Learning algorithms of Linear Regression and Logistic Regression.

Sample Project 2:
Build a model that will help to identify the customers of a bank who have a higher probability of purchasing a loan.

MODULE 3

Ensemble Techniques

Ensemble methods help to improve the predictive performance of Machine Learning models. In this course, you will learn about different

Key Learning Outcomes

- Build your expertise in the most widely-used AI & ML tools and technologies.

- Acquire the ability to independently solve business problems using AI & ML.

- Master the skills needed to build machine learning and deep learning models.

- Develop know-how of the applications of AI in areas such as Computer Vision & NLP.

- Understand the possibilities and implications of AI in different industries.

- Build a substantial body of work and an industry-ready portfolio in AI & ML.

Ensemble methods that combine several Machine Learning techniques into one predictive model in order to decrease var ance, bias or improve predictions.

Sample Project 3:
Build a model that will help the marketing team of a company to identify potential customers for a term deposit subscription.

MODULE 4

Feature Engineering, Model Selection and Tuning

Model building is an iterative process. Employing Feature Engineering techniques along with a careful model selection exercise helps to improve the model. Further, tuning the model is an important step to arrive at the best possible result. This module talks about the steps and processes around the same.

Sample Project 4:
Perform Feature Engineering and Model Tuning on a model designed to predict the strength of construction material to enhance accuracy.

MODULE 5

Unsupervised Learning

Unsupervised Learning finds hidden patterns or intrinsic structures in data. In this course, you will learn about commonly-used clustering techniques like K-Means Clustering and Hierarchical Clustering along with Dimension Reduction techniques like Principal Component Analysis.

Sample Project 5:
Identify different segments from a bank's existing customer pool based on their spending patterns as well as past interactions with the bank.

Please get in touch with a Program Advisor for a detailed module-wise breakdown of the course curriculum.

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Neural Networks

Deep Learning carries out the Machine Learning process using an 'Artificial Neural Net',which is composed of a number of levels arranged in a hierarchy. In this course, you will learn about the basic building blocks of Artificial Neural Networks. You'll learn how Deep Learning Networks can be successfully applied to data for knowledge discovery, knowledge application, and knowledge-based prediction.

Sample Project 6:

Build an Image Classification model to classify street view house numbers using Neural Networks.

Computer Vision

The module will reflect on the ability of a computer system to see and make sense of visuals using Convolution Neural Network. It will enable you to efficiently handle image data for the purpose of feed-ing into CNNs.

Sample Project 7:

Build a Convolutional Neural Network from scratch to classify images into their respective categories.

Natural Language Processing

This module talks about yet another interesting implementation of Neural Networks that revolves around equipping computers to understand human language. You will learn to understand sentiments from the texts.

Sample Project 8:

Detect sentiment from headlines/reviews using the different textual analysis techniques and sentiment analysis.
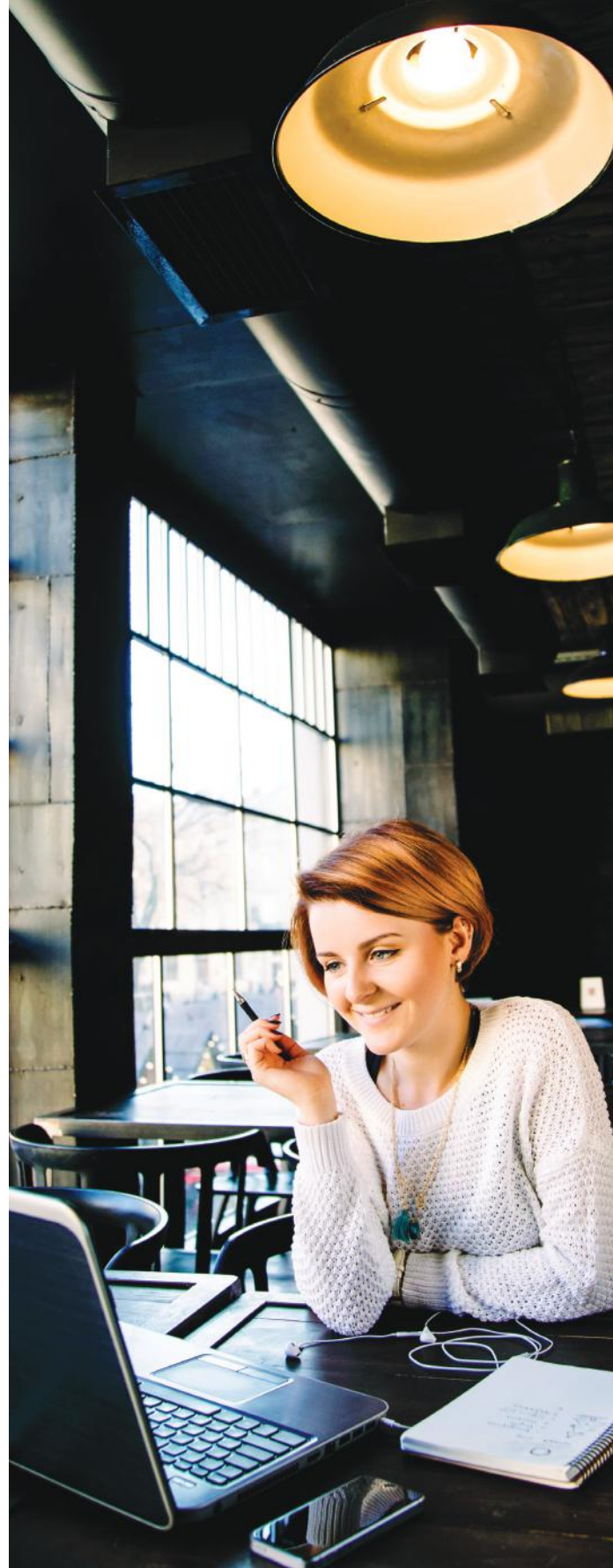
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Self-Paced Modules

Statistical Learning

Statistical Learning is a branch of applied statistics that deals with Machine Learning, emphasizing statistical models and assessment of uncertainty. This course on statistics will work as a foundation for the Artificial Intelligence and Machine Learning concepts learnt in this program.

Sample Project 9:

Deep dive deep into an insurance company data set to find valuable insights on customer profiles based on several statistical tests.

Recommendation Systems

A large number of companies use recommender systems, which are software that select products to recommend to individual customers. In this course, you will learn how to produce successful recommender systems that use past product purchase and satisfaction data to make high-quality personalized recommendations.
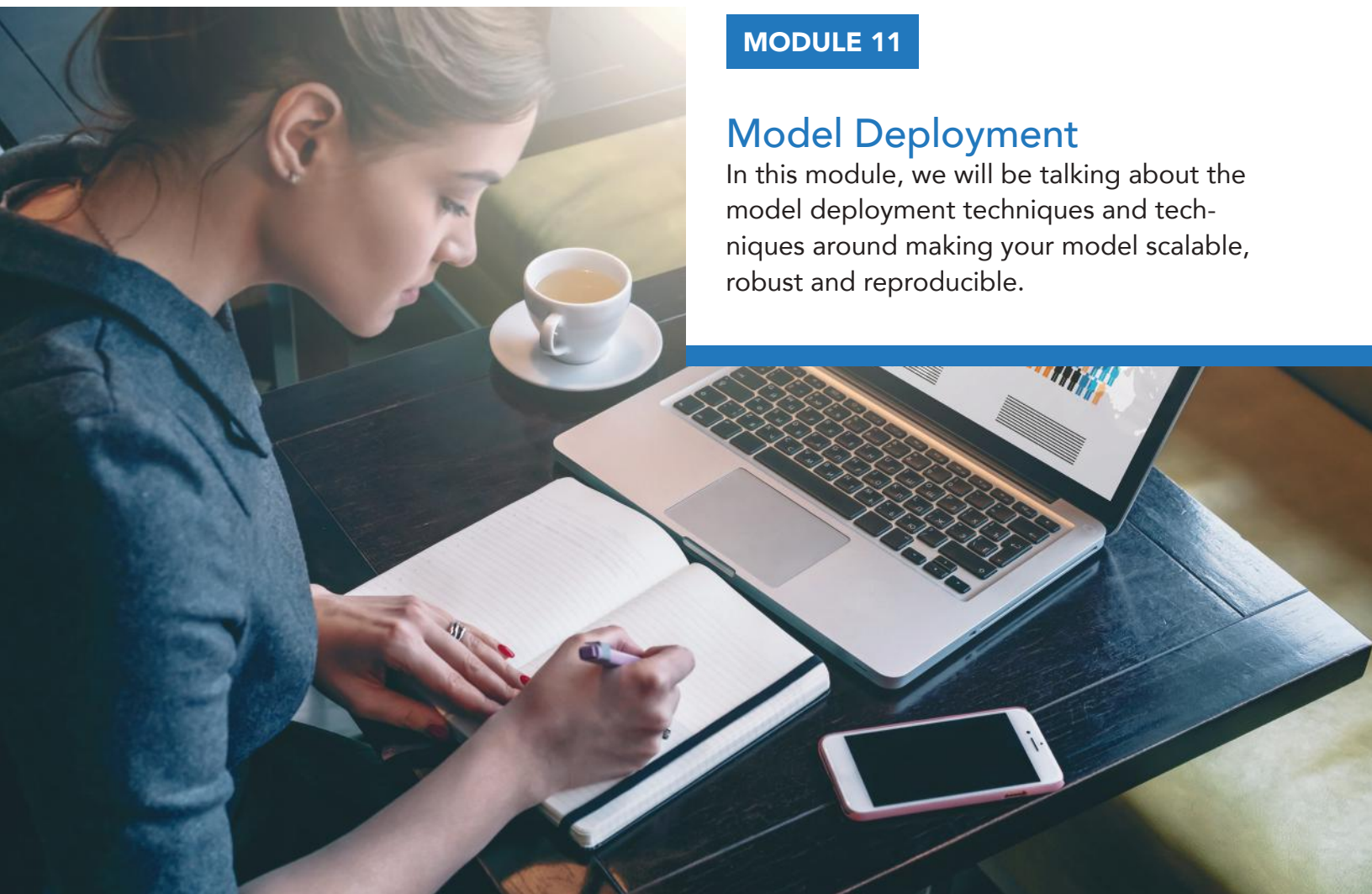
Sample Project 10:

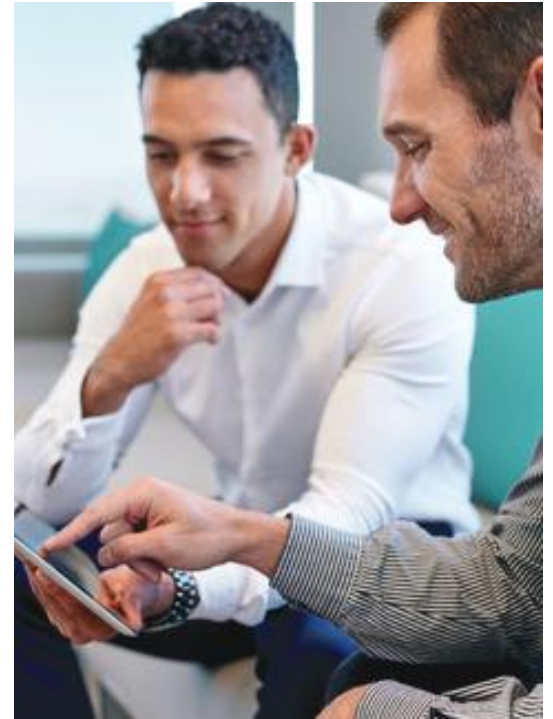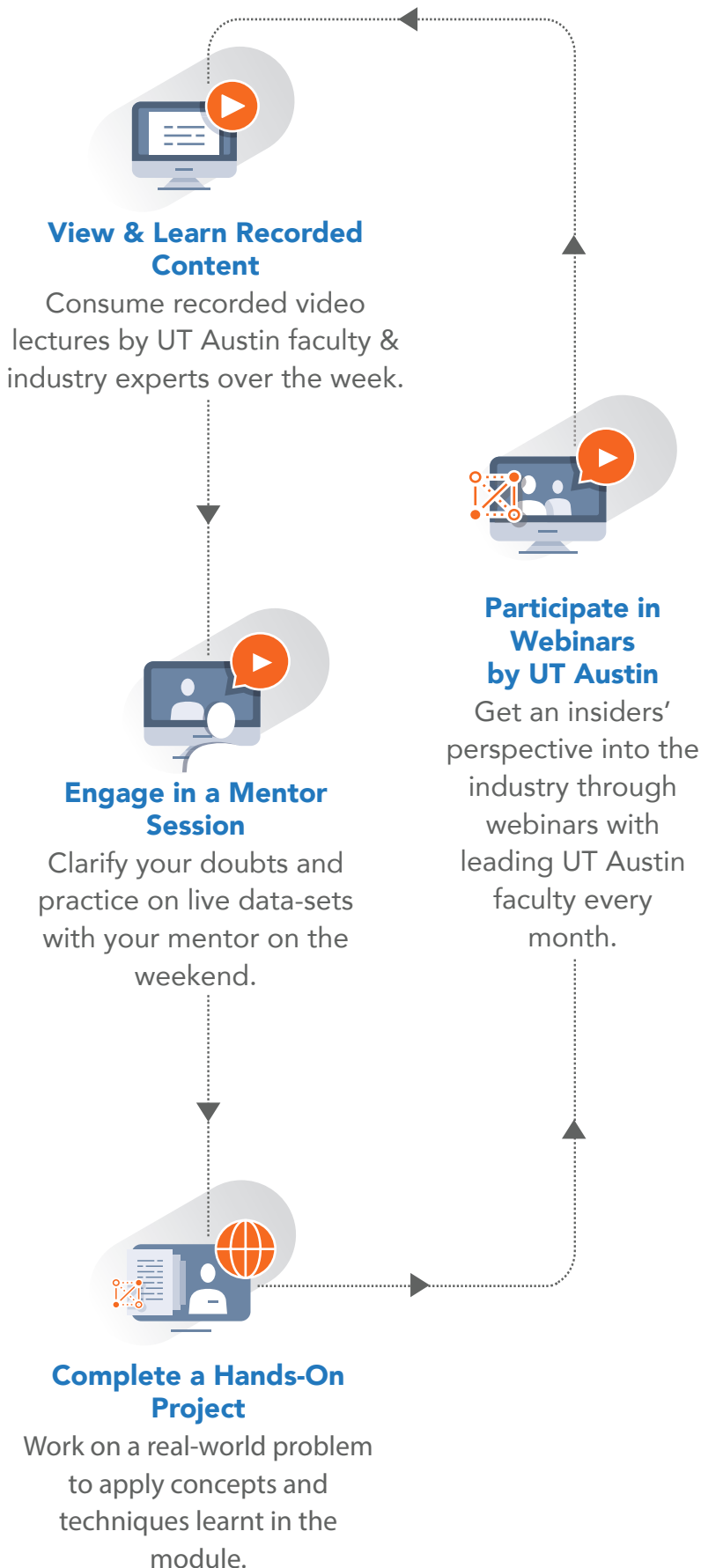Build your own recommendation system for products on an e-commerce website.

Model Deployment

In this module, we will be talking about the model deployment techniques and techniques around making your model scalable, robust and reproducible.

A Structured Learning Journey

View & Learn Recorded Content

Consume recorded video lectures by UT Austin faculty & industry experts over the week.

Engage in a Mentor Session

Clarify your doubts and practice on live data-sets with your mentor on the weekend.

Participate in Webinars by UT Austin

Get an insiders' perspective into the industry through webinars with leading UT Austin faculty every month.

Complete a Hands-On Project

Work on a real-world problem to apply concepts and techniques learnt in the module.

Program Manager: Your Personal Guide

Your Program Manager is your single point of contact for all academic and non-academic queries. Whether you are stuck on a topic or get a sudden request for work travel, the Program Manager will hand-hold and guide you through all situations, leaving no query unanswered. They will also keep a track of your learning journey and will give you personalized feedback and required nudges to ensure your success.

Advance Your Career with Comprehensive Career Support

When you are beginning afresh in a field, insights from someone on the inside can help you get a headstart. Apart from the immediate result of landing a job, career coaches work with you on the long haul – building your strengths, working on gaps, and developing a strategy to achieve your career goals.

Land your dream job with:

1-on-1 Career Sessions
Interact personally with industry professionals to get valuable insights and guidance.

Resume & LinkedIn Profile Review
Present yourself in the best light through assets that truly showcase your strengths.

Interview Preparation
Get an insiders' perspective to understand what recruiters look for.

e-Portfolio
Build an industry-ready portfolio to showcase your mastery of skills and tools.

Our Alumni Work at:

Google

BARCLAYS

BOEING

accenture

IBM

EY Building a better working world

amazon.com

Deloitte.

citigroup

Microsoft

Deutsche Bank

nielsen

PayPal

Walmart

and many more...

Admissions Process

To be eligible, you should possess a bachelor's or undergraduate degree with at least 50% aggregate marks or equivalent. Prior programming experience is preferred.

Application Form
Register by filling up the online application form. The program follows a rolling process, so we encourage you to apply early.

Shortlisting and Panel Review
A panel will review your application to determine your fit with the program. They will evaluate you on your academic performance, work experience, and motivation.

Interview / Screening
If shortlisted, you will go through a telephonic screening interview (This may be waived for candidates with strong profiles and experience).

Admissions Offer
After a final admissions committee review, you will receive an offer for a seat in the upcoming cohort of the program.

Program Fee

USD $3500

Please get in touch with a Program Advisor for flexible payment options.

Program Partner

The University of Texas at Austin is collaborating with Great Learning to deliver this program in Artificial Intelligence and Machine Learning: Business Applications to learners from around the world.

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Power Ahead

Great Learning is an ed-tech platform with a mission to enable career success for professionals in the digital economy. It offers industry-relevant programs across a wide set of domains, with over 25,000+ learners from 85+ countries.

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Your Career?

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Speak to a Program Advisor

Have questions about the program or how it fits in with your career goals?

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