POST GRADUATE PROGRAM IN

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING: BUSINESS APPLICATIONS

A Program by:

TEXAS McCombs
The University of Texas at Austin
McCombs School of Business

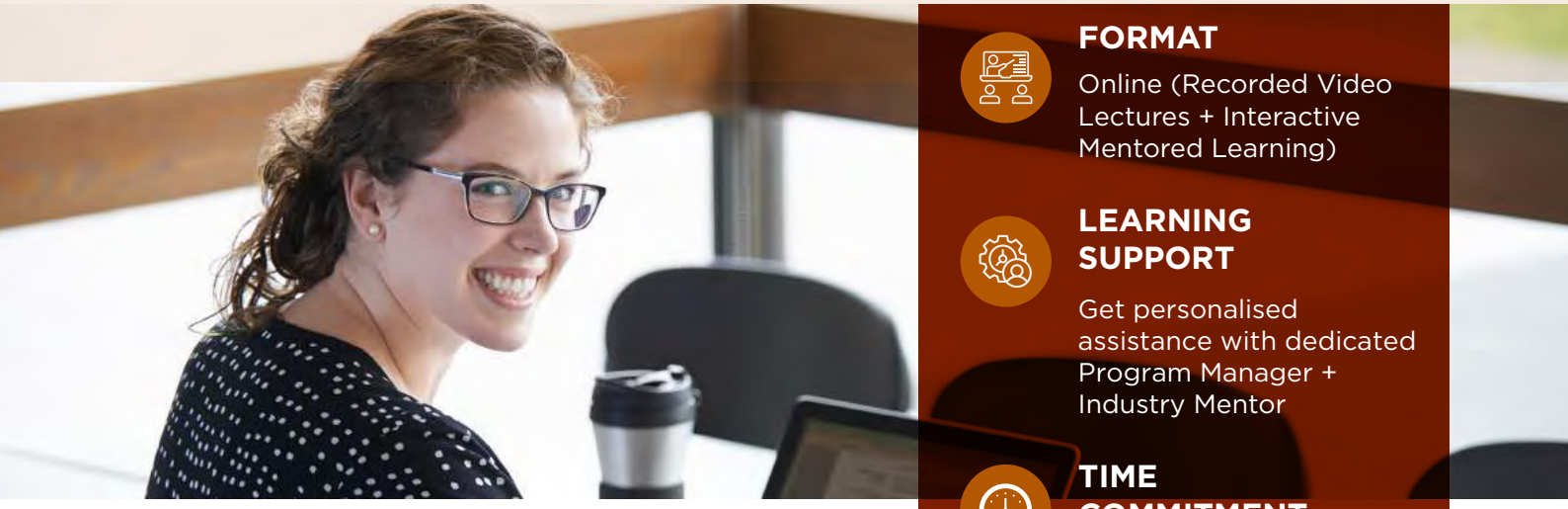
In Collaboration with:

Great Learning

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 rigor, learning support, and peer interaction of a full-time course with the flexibility of an online program.

The PGP-AIML enables you to master the basics of Python programming without any prior coding experience. It offers a comprehensive curriculum with cutting-edge technologies like Deep Learning, Computer Vision, NLP, TensorFlow, Generative AI like ChatGPT and many more. 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 Artificial Intelligence 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 teams 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)

LEARNING SUPPORT

Get personalised assistance with dedicated Program Manager + Industry Mentor

TIME COMMITMENT

8-10 Hours per Week

DURATION

7 Months

PROJECTS

7 Hands-On Projects & 40+ Case Studies

PERSONALIZED CODING ASSISTANCE

Build Projects with the Ease of Supportive Coding Tools

9.0 CEUs

Earn 9.0 Continuing Education Units (CEUs) on successful completion of the program

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-recognized as a leader in the domains of science, business, technology, and social science.

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

#4 IN THE US FOR BUSINESS ANALYTICS
QS World University Rankings 2024

#6 IN CUSTOM PROGRAMS
Financial Times - Executive Education

Key Facts about Artificial Intelligence and Machine Learning

- The AI industry could be worth more than $15 trillion by 2030.
- By 2025, the AI industry will be generating revenues of $118.6 billion a year.
- 86% of executives at fast-growing companies say AI is important to their company's success.
- AI could create 97 million new jobs by 2025.

Source: PWC, Statista, Cognizant Report, World Economic Forum

THIS PROGRAM IS FOR YOU, IF YOU:

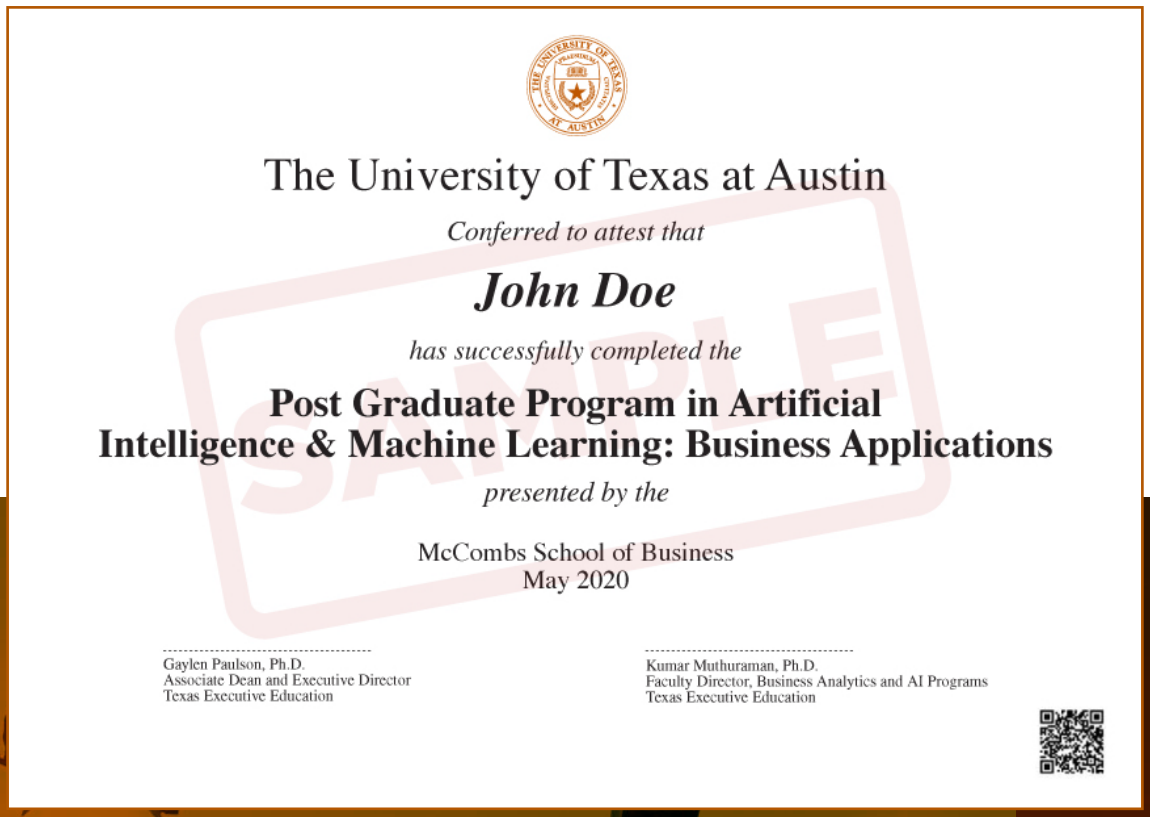
- Aspire to build a technical career in AI and Machine Learning.
- Like solving complex problems in a structured manner.
- Are comfortable in dealing with advanced algorithms.
- Do not have any prior coding/programming experience.
- Want to build AI/ML solutions integrated into tech infrastructures.
- 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.

CERTIFICATE

Showcase your competence with a Certificate of Completion from The University of Texas at Austin.



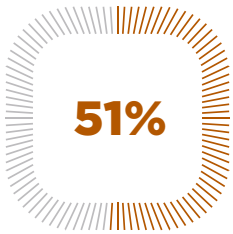
PAST **LEARNER PROFILES**

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.

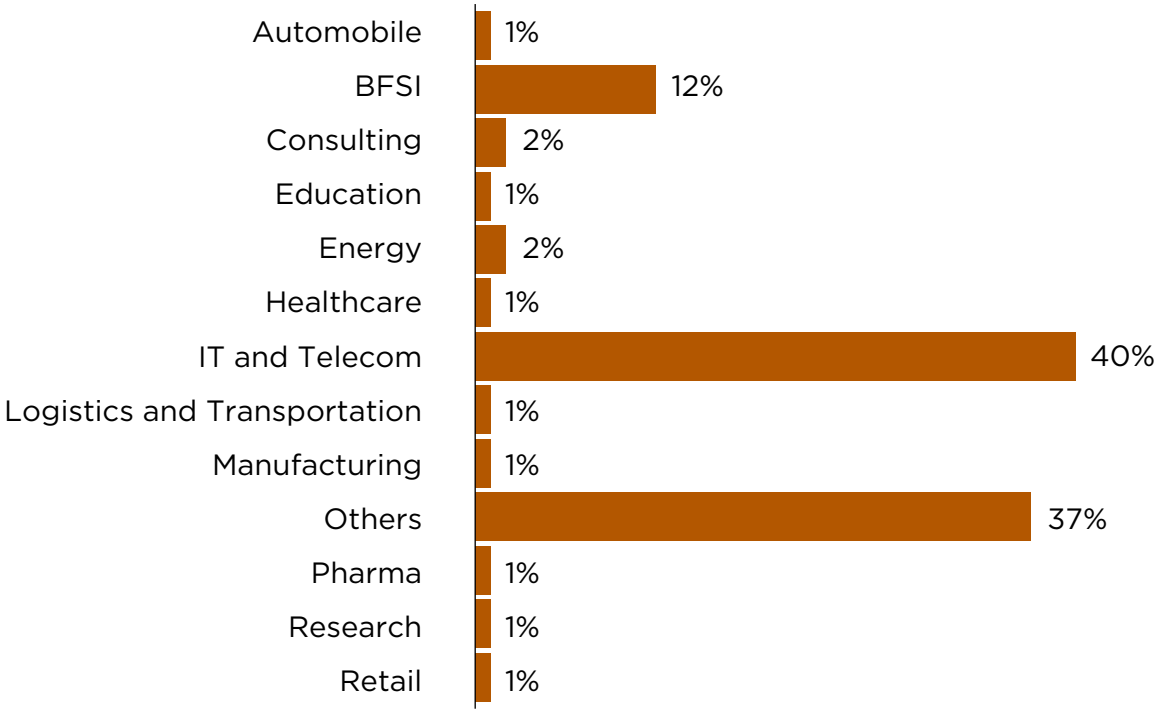
0-3 Years

3-8 Years

8-15 Years



15+ Years



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 Machine Learning, Deep Learning, and Generative AI.
- 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 and 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.
- Get an additional certificate in Python Foundations.

"The program gave me fair coverage in terms of both breadth and depth of AI & ML in 6 months. The hands-on projects, mentored learning sessions by industry experts give you a holistic learning path. Add the personal attention from the Program Manager and it doubles your progress. Truly a Great Learning experience!"

- Sujoy Joy, Module & Process Owner,
Nielsen, USA

"The AIML program has been comprehensive in key concepts. The video lectures were detailed and the projects and quizzes challenged us to work through real-life applications. I would recommend this program to professionals wanting to learn more about AIML, as I have applied my learnings and tools in my career to solve client problems."

- Steve Carr, Project Manager
enVista, USA

"Overall, I enjoyed the program and learned a lot. I learnt the most in the projects and mentor learning sessions. It hammered in the process of approaching AIML problems. The next best thing is the breadth and range of topics as well as working on patents for using or implementing AI."

- Eric Taylor, Design Engineer
Arteris IP, USA

COURSE **CURRICULUM**

SELF-PACED MODULE

INTRODUCTION TO DATA SCIENCE AND AI

Gain an understanding of the evolution of AI and data science over time, their application in industries, the mathematics and statistics behind them, and an overview of the life cycle of building data driven solutions.

- The Fascinating History of Data Science and AI
- Transforming Industries through Data Science and AI
- The Math and Stats Underlying the Technology
- Navigating the Data Science and AI lifecycle

SELF-PACED MODULE

PYTHON PRE-WORK

Gain a fundamental understanding of the basics of Python programming and build a strong foundation of coding to build AI applications.

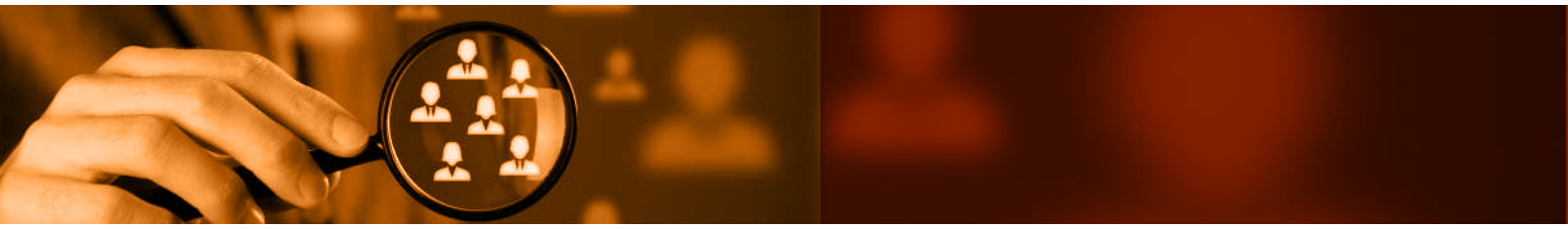
- Introduction to Python Programming
- AI Application Case Study

SELF-PACED MODULE

GENERATIVE AI

Get an overview of Generative AI, what ChatGPT is and how it works. delve into the business applications of ChatGPT, and an overview of other generative AI models/tools via demonstrations.

- ChatGPT and Generative AI - Overview
- ChatGPT - Applications and Business
- Generative AI Demonstrations



MODULE 1 PYTHON FOUNDATIONS

Read, explore, manipulate, and visualize data to tell stories, solve business problems, and deliver actionable insights and business recommendations using some of the most widely used Python packages.

- Python Programming Fundamentals (Variables and Datatypes, Data Structures, Conditional and Looping Statements, Functions)
- Python for Data Science - NumPy and Pandas
- Exploratory Data Analysis (Univariate Analysis, Bivariate/Multivariate Analysis, Missing Value Treatment, Outlier Detection and Treatment)
- Analyzing Text Data

Graded Project | FoodHub Order Analysis using Python

Analyze the data of a food aggregator company, answer key questions provided, draw actionable insights, and help the company to improve the business and customer experience.

MODULE 2 MACHINE LEARNING

Understand the concept of learning from data, build linear and non-linear models to capture the relationships between attributes and a known outcome, and discover patterns and segment data with no labels.

- Linear Regression
- Decision Trees
- K-Means Clustering

Graded Project | Personal Loan Campaign Purchase Prediction

Build a Machine Learning model to identify potential customers for a bank who have a higher probability of purchasing the loan and the driving factors behind the decision making.

MODULE 3 ADVANCED MACHINE LEARNING

Combine the decisions from multiple models using ensemble techniques to improve model performance and make better predictions, and employ feature engineering techniques and hyperparameter tuning to arrive at generalized, robust models to optimize associated business costs.

- Bagging and Random Forest
- Boosting (AdaBoost, Gradient Boosting, XGBoost, Stacking)
- Model Tuning

Graded Project | EasyVisa

Analyze the data of Visa applicants, build a predictive model to facilitate the process of visa approvals, and based on important factors that significantly influence the visa status, recommend a suitable profile for the applicants for whom the visa should be certified or denied.

MODULE 4 INTRODUCTION TO NEURAL NETWORKS

In this module, implement neural networks to synthesize knowledge from data, demonstrate an understanding of different optimization algorithms and regularization techniques, and evaluate the factors that contribute to improving performance to build generalized and robust neural network models to solve business problems.

- Introduction to Neural Networks
- Optimizing Neural Networks

Graded Project | ReneWind

Analyze the data provided by a wind energy provider regarding equipment health, build various neural network models, and find the best one that will help identify failures so that the equipment be repaired before failing/breaking and the overall maintenance cost can be brought down.

MODULE 5 NATURAL LANGUAGE PROCESSING WITH GENERATIVE AI

This module will help you get introduced to the world of natural language processing, gain a practical understanding of text embedding methods and the working of different transformer architectures that lie at the core of large language models (LLMs), explore how retrieval augmented generation (RAG) integrates information retrieval to improve the accuracy and relevance of responses from an LLM, and design and implement robust NLP solutions using open-source LLMs combined with Prompt Engineering techniques.

- Word Embeddings
- Attention Mechanisms and Transformers
- Large Language Models and Prompt Engineering
- Retrieval Augmented Generation

Graded Project | Stock News Sentiment Analysis

Analyze the data consisting of stock news and prices, develop an AI-driven sentiment analysis system that will automatically process and analyze news articles to gauge market sentiment, and summarize the news at a weekly level to help financial analysts optimize investment strategies and improve client outcomes.

MODULE 6 INTRODUCTION TO COMPUTER VISION

Get introduced to the world of computer vision, demonstrate an understanding of image processing and different methods to extract informative features from images, build Convolutional Neural Networks (CNNs) to unearth hidden patterns in image data, and leverage common CNN architectures to solve image classification problems.

- Image Processing
- Convolutional Neural Networks

Graded Project | Plant Seedling Classification

Build a robust image classifier using CNNs to efficiently classify different plant seedlings and weeds to improve crop yields and minimize human involvement.

MODULE 7 MODEL DEPLOYMENT

This module will help you comprehend the role of model deployment in realizing the value of an ML model and how to build and deploy an application using Python.

- Introduction to Model Deployment
- Containerization

Graded Project | Credit Card Users Churn Prediction

Analyze historical customer data, build a predictive model that predicts whether or not a customer will discontinue using a bank's credit card services, and identify the key factors affecting the customer's decision.

SELF-PACED MODULE MULTIMODAL GENERATIVE AI

This module will help you explore how to solve business problems by generating code using Generative AI tools, examine the capabilities of text-to-image and image-to-text GenAI tools like DallE through business use cases, and explore the speech recognition capabilities of audio-to-text GenAI tools like Whisper through business use cases.

- Code Generation using GenAI
- Image Creation using GenAI
- Speech Recognition using GenAI

SELF-PACED MODULE STATISTICAL LEARNING

This module will help you perform statistical analysis using Python to evaluate the reliability of a particular business estimate using confidence intervals and test hypotheses (assumptions) before putting them into action and committing resources by analyzing data distributions and performing hypothesis testing.

- Probability Fundamentals
- Probability Distributions
- Sampling and Central Limit Theorem
- Estimation Theory
- Hypothesis Testing

SELF-PACED MODULE

RECOMMENDATION SYSTEMS

This module will help you get introduced to recommendation systems and learn how to build recommendation systems that use past product purchase and satisfaction data to make high-quality personalized recommendations.

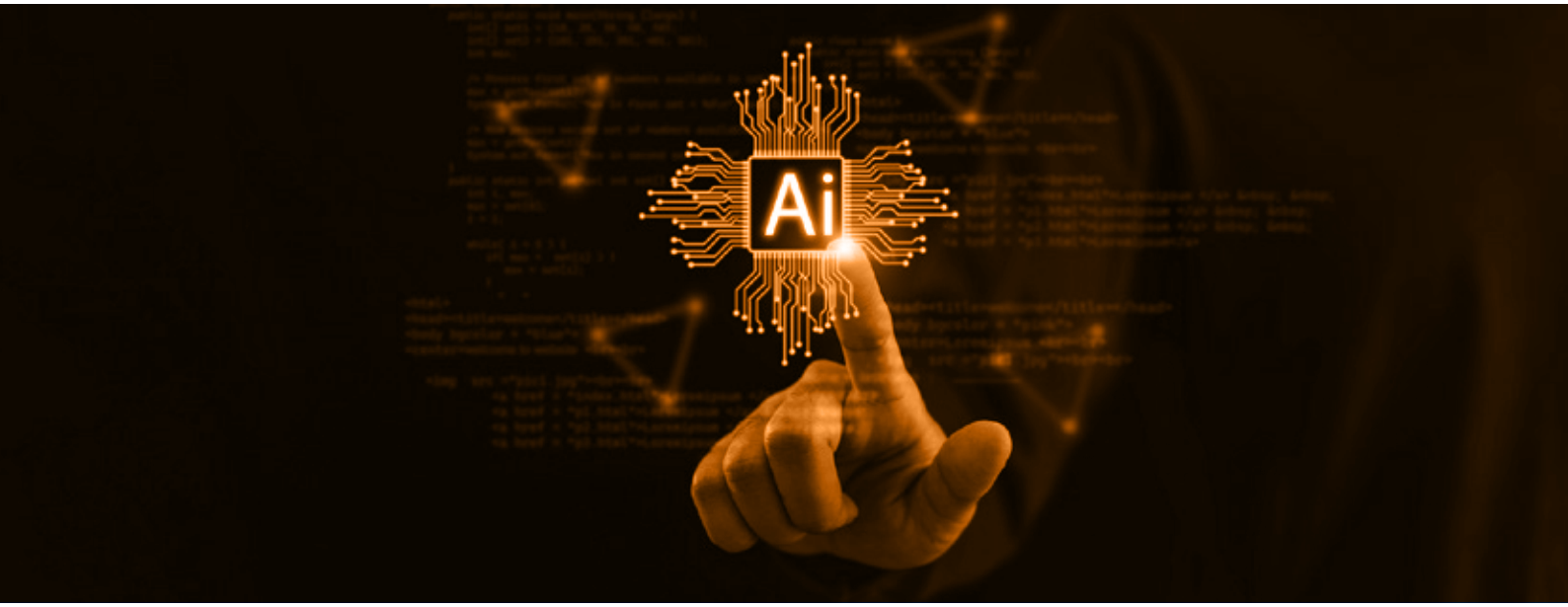
- Introduction to Recommendation Systems
- Market Basket Analysis
- Popularity-based and Content-based Recommendation Systems
- Collaborative Filtering
- Hybrid Recommendation Systems

SELF-PACED MODULE

INTRODUCTION TO SQL

This module will help you gain an understanding of the core concepts of databases and SQL, gain practical experience writing simple SQL queries to filter, manipulate, and retrieve data from relational databases, and utilize complex SQL queries with joins, window functions, and subqueries for data extraction and manipulation to solve real-world data problems and extract actionable business insights.

- Introduction to DB and SQL
- Fetching, Filtering, and Aggregating Data
- Inbuilt and Window Functions
- Joins and Subqueries



SAMPLE **CASE STUDIES**

COMPANY ANNUAL FINANCIAL REPORT ANALYSIS

Aid financial analysts at Apple to extract key information from long financial documents like annual reports very quickly using RAG and thereby increasing efficiency in making key financial decisions.

RESTAURANT REVIEW ANALYSIS

Analyze the customer reviews for different restaurants for a leading global food aggregator and use Generative AI models to analyze the reviews and tag them, thereby enhancing the company's ability to understand customer sentiments at scale, enabling data-driven decision-making, and improving overall customer satisfaction.

E-NEWS PLATFORM NEWS CATEGORIZATION

Efficiently categorize and tag news articles for an e-news platform for improved content organization and user engagement.

HOTEL BOOKING CANCELLATION PREDICTION

Build a Data Science solution for a chain of hotels that will help them predict the likelihood of a booking getting canceled so that they can take measures to fill in potential vacancies and reduce revenue loss.

MACHINE PREDICTIVE MAINTENANCE

Analyze the data of an auto component manufacturing company and develop a predictive model to detect potential machine failures, determine the most influencing factors on machine health, and provide recommendations for cost optimization to the management.

COVID DETECTION

Build an AI solution for a renowned chain of hospitals that will help them predict the likelihood of a patient being infected by COVID by analyzing a chest X-ray scan of the patient to segregate the patients who are less likely to have COVID and prioritize critical cases.

CREDIT CARD FRAUD DETECTION

Analyze credit card transaction data and build a neural network model to capture the complexities in the data and predict the probability of a transaction being fraudulent to help minimize financial losses incurred by the financial institution and the cardholders.

BANK CUSTOMER SEGMENTATION

Identify different segments in the existing customers, based on their spending patterns as well as past interaction with the bank, using clustering algorithms and provide recommendations to the bank on how to better market to and service these customers.

USED CAR PRICE PREDICTION

Explore and visualize the data, build a linear regression model to predict the prices of used cars, and generate a set of insights and recommendations that will help the business.

CREDPAY

Analyze the data provided by a consultation firm that partners with banks, answer key questions provided, draw actionable insights, and help the company to improve the business by identifying the attributes of customers eligible for a credit card.

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

aiml.utaustin@mygreatlearning.com

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

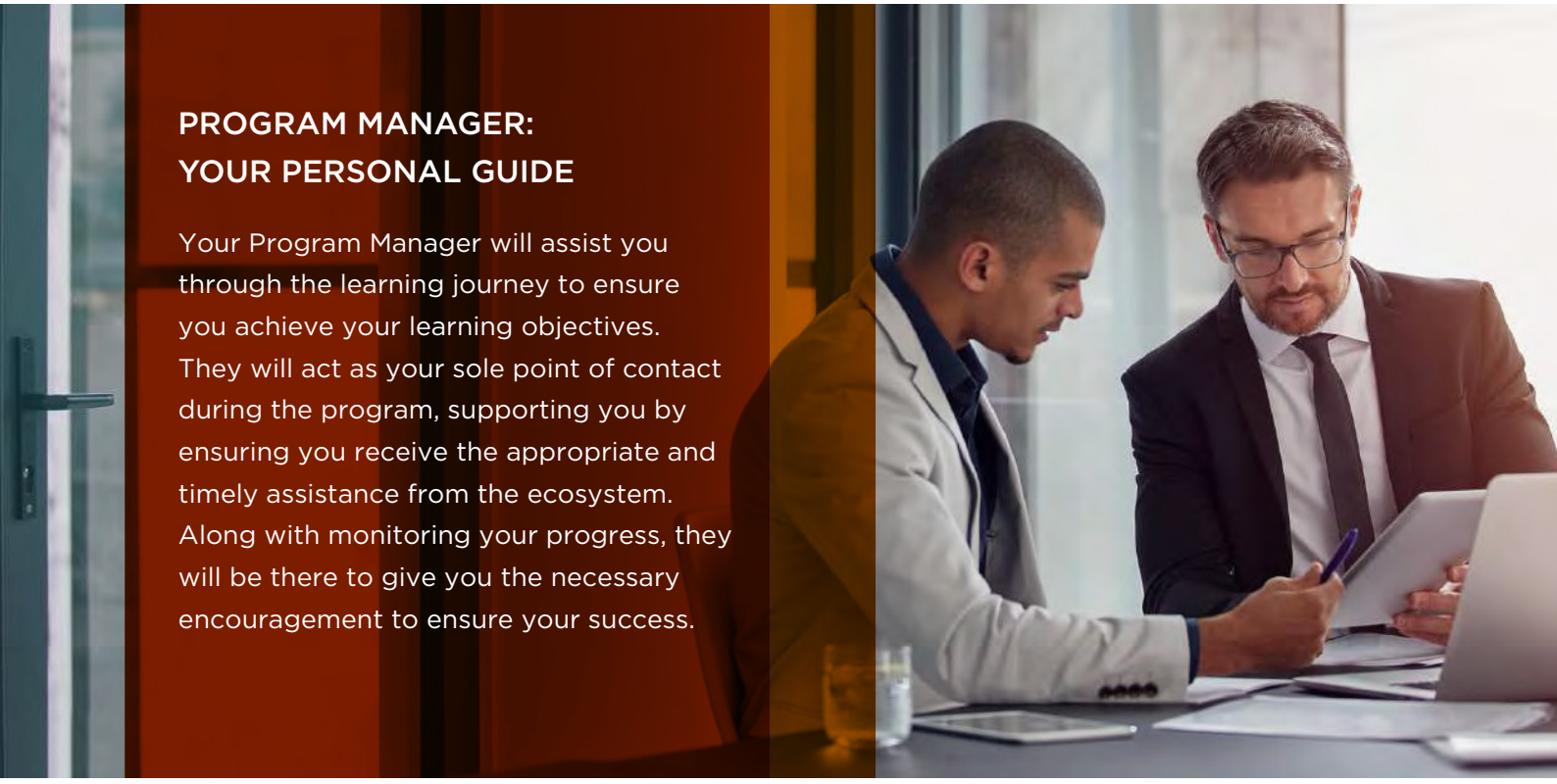
Clarify your doubts and practice on live data-sets with your mentor on the weekend.

Complete a Hands-On Project

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

Participate in Webinars by UT Austin

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



PROGRAM MANAGER: YOUR PERSONAL GUIDE

Your Program Manager will assist you through the learning journey to ensure you achieve your learning objectives. They will act as your sole point of contact during the program, supporting you by ensuring you receive the appropriate and timely assistance from the ecosystem. Along with monitoring your progress, they will be there to give you the necessary encouragement to ensure your success.

LEARN FROM THE **BEST OF ACADEMIA**

The program is taught by academic experts in the fields of Artifcial Intelligence and Machine Learning. The faculty's vast experience with research as well as theory in the domains of AI and Machine Learning will be a crucial part of the learning journey that is aimed at inspiring a love for data in you and making you industry-ready.

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
MS & Ph.D. - Stanford University

DR. DANIEL MITCHELL
Clinical Assistant Professor - McCombs School of Business
Ph.D. - The University of Texas at Austin

DR. BRADFORD TUCKFIELD
Founder & Data Science Consultant
Ph.D. - The Wharton School of the University of Pennsylvania

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

BECOME INDUSTRY-READY WITH **LIVE MENTORSHIP**

Along with strong theoretical foundations, hands-on learning goes a long way in preparing you to make data-driven decisions regarding business problems. As you work on real-life projects, you will receive personalized live mentorship every weekend from industry experts in AI and Machine Learning.

MENTOR PROFILES

MARCELO GUARIDO DE ANDRADE
Senior Data Scientist,
Partners in Performance

PRIYANKA SINGHAL
Assistant VP,
US Bank

FRANCK TCHUENTE
Senior Data Scientist,
Maxa

PRABHAT B.
Data Scientist,
Apple

ỌMID BADRETALE
VP Data Scientist,
RBC Capital Markets

AJAY PURUSHOTHAMAN THUNDATHIL
Senior Data Scientist,
Verizon Media

Translate Your Learnings Into Practical Applications

- 20+ live mentorship sessions focused on doubt-resolution and case-study based practice
- Collaborative yet personalized learning in small groups of up to 15 learners
- Network with peers from different geographies and domains
- Work on 7 hands-on projects under the guidance of industry experts
- Hands-on learning with AI practitioners from leading organizations such as, Microsoft, SAP, Verizon, IBM among others

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

DEDICATED **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.

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...

LAND YOUR DREAM JOB WITH:

1:1 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.

ADMISSION PROCESS

ELIGIBILITY

- Bachelor's or Undergraduate degree with at least 50% aggregate marks or equivalent.
- No prior programming experience is needed.

APPLICATION PROCESS

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

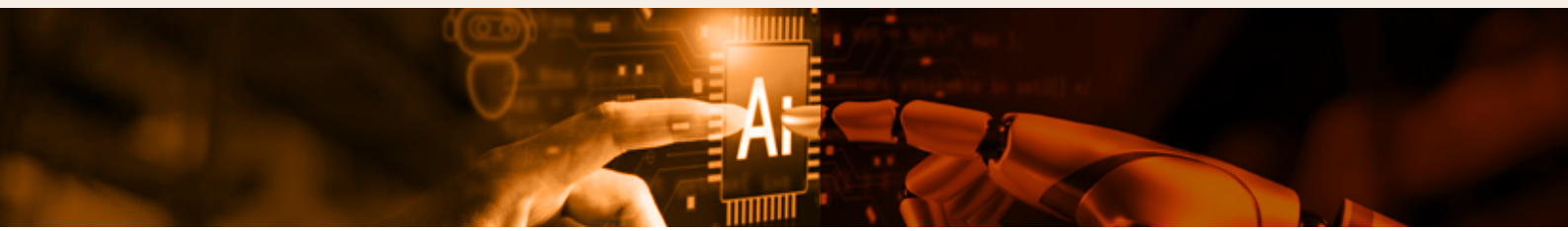
A panel will review your application to determine your fit with the program. They will evaluate you on your academic performance, work experience, and motivation.

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

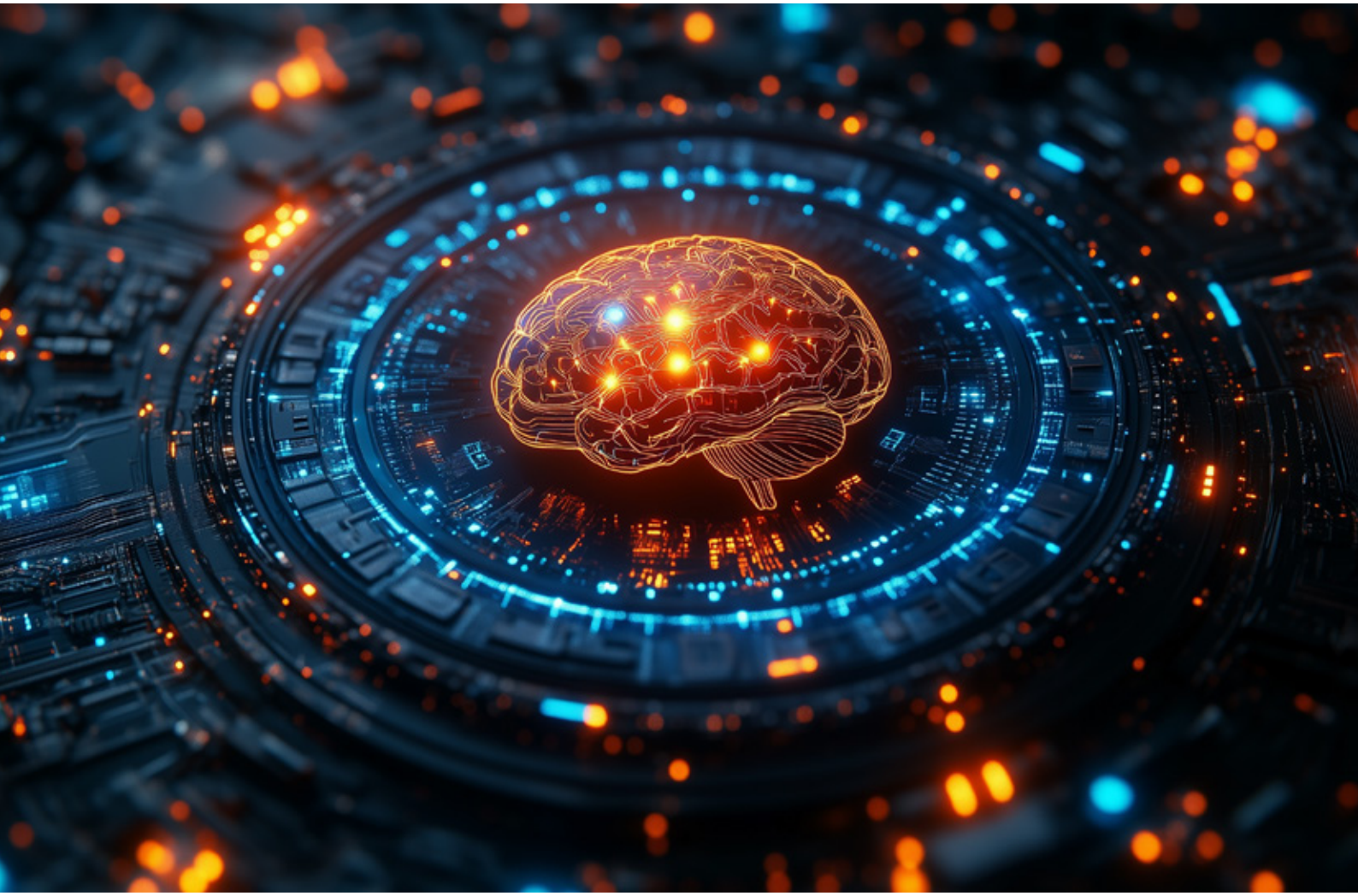
After a final admissions committee review, you will receive an offer for a seat in the upcoming cohort of the program.



PROGRAM FEE

USD 4,200

Please get in touch with a Program Advisor for more details on flexible fee payments



PROGRAM **PARTNER**

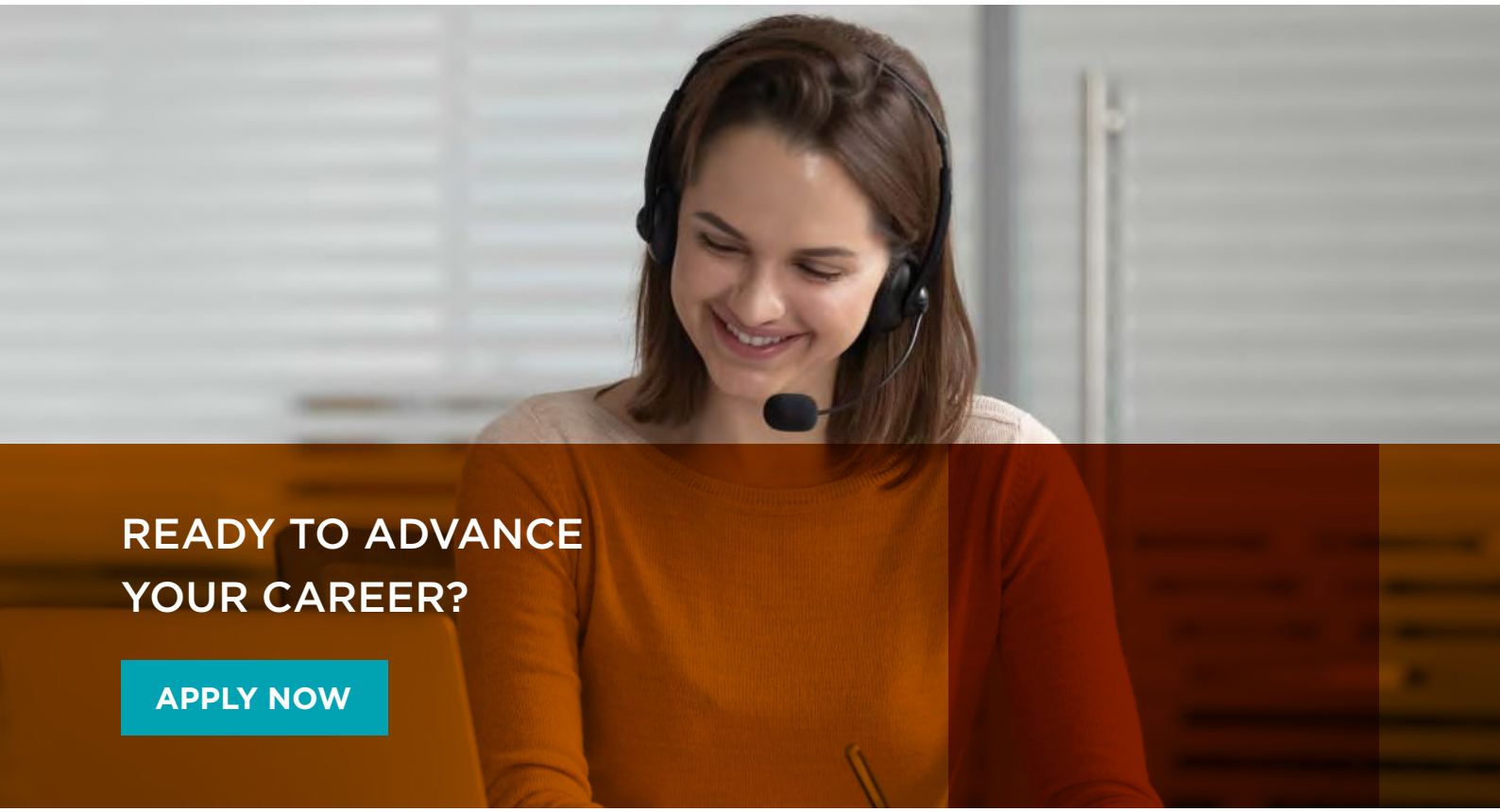
The McCombs School of Business at The University of Texas at Austin is collaborating with Great Learning to deliver this program in Artificial Intelligence and Machine Learning: Business Applications to learners from around the world.

Great Learning is one of the leading ed-tech platforms for professional and higher education. It offers comprehensive, industry-relevant programs in Software Engineering, Business Management, Business Analytics, Data Science, Machine Learning, Artificial Intelligence, Cloud Computing, Cyber Security, Digital Marketing, Design Thinking, and more.

- **12 MILLION+ LEARNERS**
- **7000+ INDUSTRY EXPERT MENTORS**
- **170+ COUNTRIES**
- **3900+ HIRING COMPANIES**
- **BEST ED-TECH COMPANY OF THE YEAR***
  *Indian Education Awards 2022 | *EdTech Review Awards 2020
- **BEST ONLINE SKILLS PROVIDER***
  *Education Innovation Awards 2022

Great Learning's programs are developed in collaboration with the world's foremost academic institutions like Stanford University, the University of Texas at Austin, MIT Professional Education, MIT Institute for Data, Systems, and Society (IDSS), Northwestern University, and many more. The programs are constantly reimagined and revamped to address the dynamic needs of the industry.

Having impacted 12 million+ learners from over 170+ countries, Great Learning is on a mission to enable transformative learning and career success in the digital economy for professionals and students across the globe.



READY TO ADVANCE YOUR CAREER?

APPLY NOW

CONTACT US

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