SUMMER SCHOOL

International scientific services

Compressed and Comprehensive

AI & Data Science Program for Business

In-Person & Online

Program Goals

This 7-day Summer School in AI & Data Science for Business provides practical skills to apply data tools and strategies in real business settings.
The program helps you:

- Demystify AI & Data Science with key concepts and low-code tools like KNIME, empowering professionals to apply AI confidently.
- Build Analytical Thinking by creating ML models in Python (classification, regression, clustering, dimensionality reduction).
- Enhance HR Decision-Making with People Analytics Using Excel, Tableau, and Insightful Dashboards.
- Apply Modern AI in marketing and HR through NLP, GNNs, and recommender systems to predict behavior and enhance outcomes.

Dubai, UAE
(Full address to be shared after confirmation)

Sep 4 -10, 2025

In-person and Online

In-person :
1500 USD

Online:
600 USD

ENGLISH

- *Secure online payment (international cards accepted)*
- *Bank transfer (details available upon request)*

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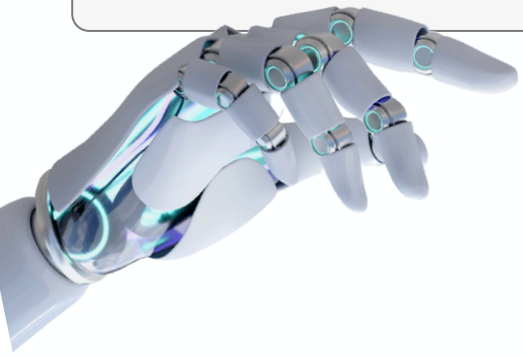
Who Should Attend

This program is for professionals and academics who want to harness data and AI to solve business challenges—no deep technical background needed. You'll benefit most if you are:

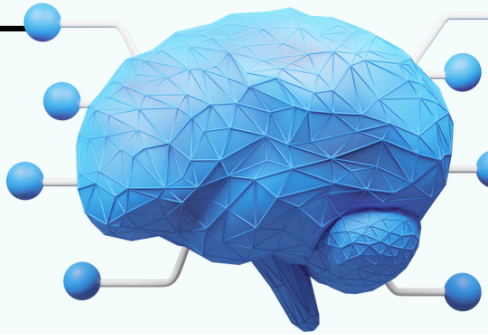
- Business leaders and managers aiming to make data-informed decisions
- HR professionals using analytics to boost workforce performance
- Marketing analysts applying AI for insights and personalization
- Analysts and consultants seeking tools for predictive modeling
- Graduate students and researchers wanting hands-on AI/ML experience
- Decision-makers building a data-driven culture in their organizations



What You Will Learn

By the end of this intensive 7-day summer school, you will:

- Grasp core concepts in data science, ML, and frameworks
- Build ML models using no-code/low-code tools like KNIME
- Develop and compare predictive models with real business data
- Apply supervised & unsupervised methods (classification, clustering, etc.) in Python
- Use AI tools in marketing: NLP, GNNs, and recommender system
- Leverage HR analytics with GNNs to map and predict workforce performance
- Design dashboards with Excel, Tableau, and Python tools
- Understand model deployment, automation, and ethical AI use



At a Glance

Day	Topic
1	Machine Learning (Theory and Implementation in Python) Focus: Hands-on Python training in supervised & unsupervised ML techniques—regression, decision trees, and SVM—for real-world business analytics and decision-making.
2	Unsupervised Learning and Model Deployment Focus: Build and evaluate ML models with Python, clean and prepare data, apply ML in real-world scenarios, and leave with reusable templates.
3	HR ANALYTICS Focus: Grasp people analytics fundamentals, understand HR's strategic role, and explore how leaders foster an analytics-driven culture.
4	Advanced HR Analytics for Business Impact Focus: Learn to manage HR data quality, visualize insights using Excel and Tableau, and apply analytics across core HR functions like staffing, training, and performance.
5	Marketing Analytics with Modern AI Applications Focus: Explore cutting-edge AI tools—GNNs, NLP, transformers, and recommender systems—to predict customer behavior, personalize marketing, and elevate analytics effectiveness.
6	GNNs for Organizational Network and Talent Analytics Focus: Apply Graph Neural Networks to model organizational relationships and communication patterns, enabling predictions on attrition, improved team dynamics, and data-driven talent development strategies.
7	Data Science Best Practices for Managers (with Low-Code Analytics Tools) Focus: Learn core data science and AI/ML concepts, apply no-code tools like KNIME to build models on real datasets, and implement best practices in model evaluation and explainability.

Why You Should Learn AI & Data Science for Business

In today's data-driven world, mastering AI and data science is essential—not optional. Whether you're a manager, HR expert, marketer, consultant, or researcher, turning data into insights transforms how you work, compete, and grow.

- **For managers**: optimize operations, reduce risk, and spot growth opportunities.
- **For marketers**: use AI for smarter targeting, personalization, and predictions.
- **For HR**: improve performance, predict attrition, and enhance design with people analytics.
- **For analysts and researchers**: bridge theory and practice through hands-on AI tools.

This summer school empowers professionals—regardless of technical background—to apply AI in real-world business settings using practical tools, case studies, and low-code solutions.

Program Benefits

- **Hands-On & Practical**

Work on real business cases using KNIME, Tableau, and Streamlit — no coding needed.

- **Learn from Global Experts**

Train with top instructors from the US, UK, India, and UAE.

- **Career-Certified**

Earn an official certificate to strengthen your resume.

- **Business-Focused**

Tailored for HR, marketing, finance, and management professionals.

- **Fast-Track Learning**

Master AI, ML, data visualization, and deployment in 7 days.

- **Global Network & Resources**

Collaborate internationally and access ready-to-use templates and tools.

Instructors

Prof. Dursun Delen

Regents Professor of Management Science & Information Systems
Spears & Patterson Endowed Chairs in Business Analytics
Research Director, Center for Health Systems Innovation
Oklahoma State University & Istinye University

A global expert in business analytics, data science, and machine learning. Before joining Oklahoma State University in 2001, he spent over a decade in industry, including leading research projects for NASA and the Department of Defense. He provides professional training and consulting, has published over 250 articles and 11 books, and serves as editor-in-chief of the Journal of Business Analytics and AI in Business. He has received honors such as Fulbright Scholar and Big Data Mentor.

Prof. Meenakshi Kaushik

PhD , MBA
Professor at lloyd Institute of Engineering and Technology Greater Noida
Professor , Author , Researcher in Management In HR & OB (Leadership in Women) , Digital Transformation & AI

Prof. Meenakshi Kaushik is a Professor at Department of Management and Applied Sciences in Lloyd Group of Institutions with 17+ years of extensive experience in higher education, specializing in Human Resource Management and Development. She has a strong background in industry collaboration, having worked with organizations like CIPLA and conducted training programs through ISTD. Certified member of AIMA, NHRD, and SHRM with exceptional skills in academic leadership and research mentoring.

Dr. Hossein Peyvandi

University of Surrey, England
Faculty of Engineering and Physical Science,
Department Member
Expert in Computational Intelligence & Predictive Analytics

Dr. Hossein Peyvandi is an Associate Lecturer at the University of Surrey with a Ph.D. in Electrical Engineering from Surrey, and prior degrees from University of Tehran and Sharif University. He completed a postdoctoral fellowship in Neuroinformatics in the UK.
Author of 30+ publications, a cryptography patent, and three books, his research covers AI, network security, and predictive analytics. He has worked on EU-funded projects, received the NEF Award from Iran's National Elites Foundation, and is a Fellow of HEA and member of IEEE, AMS, and IET.

Prof. Alireza Daneshkhah

Professor in Data Science,
Faculty of Mathematics and Data Science,
Emirates Aviation University

Prof. Daneshkhah earned his PhD in Estimation in Causal Graphical Models from the University of Warwick (UK), complemented by a PgCert in Higher Education from Coventry University. He has held senior academic roles at Coventry University and Cranfield University, with research leadership in AI, Bayesian modelling, and probabilistic simulation of complex systems. His work spans climate change, health, and networked infrastructure, with funding from EPSRC, NHS, NERC, DEFRA, and industrial partners.

Summer School Program

Day 1 and Day 2

Day 1 : Machine Learning: *Theory and Implementation in Python*

- **Lecturer:** *Prof. Alireza Daneshkhah*
- **Format**: *Hands-on + Guided Exercises*
- **Focus**: *Core Machine Learning methods (classification regression, clustering), applied through Python*

Overview:
This two-day hands-on workshop introduces essential ML techniques using Python, focusing on business analytics and decision-making. Participants will cover the ML pipeline from preprocessing to deployment using real-world cases and libraries like scikit-learn and pandas.

1. Introduction to Machine Learning and Its Business Applications	• ML taxonomy, supervised vs. unsupervised learning. • Case study examples: HR, marketing, and operations.
2. Python Setup and Data Preprocessing Essentials	• Using pandas, NumPy, and scikit-learn. • Handling missing data, encoding, scaling, train-test split.
3. Classification Models	• Logistic Regression, K-Nearest Neighbors, Decision Trees • Evaluation metrics: accuracy, F1-score, ROC-AUC • Hands-on: Employee attrition or customer churn prediction
4. Regression Models	• Linear Regression and Regularization. • SVM regression. • Hands-on: Salary prediction or demand forecasting.

5. Clustering Techniques	• K-Means, Hierarchical Clustering. • Hands-on: Customer segmentation or employee grouping. • Visualizing clusters using PCA/t-SNE.
6. Dimensionality Reduction	• Principal Component Analysis (PCA). • Feature selection vs. extraction.
7. Model Evaluation and Practical Deployment Tips	• Cross-validation and hyperparameter tuning. • Pipelines and model persistence (joblib/pickle). • Demo: Deploying ML model using Streamlit.
8. Wrap-Up and Best Practices	• Summary of learning. • Discussion on model explain ability and fairness. • Guidance for further learning.

Day 3 and 4

HR ANALYTICS

- **Lecturer:** *Prof. Meenakshi Kaushik*
- **Overview:** The objective of this course is to equip students with the knowledge of people analytics to improve human capital management decisions by applying advanced analytics and Big Data technologies and processes.

1	• Understanding the Fundamentals • Why People Analytics? • Adoption of Analytics, • HR's Contribution to Business Value, • HR Decision Making and Analytics, • HR Business Process and Analytics
2	• Establishing an Analytics Culture: Enable Analytical Thinking, • Role of Leader in creating analytic culture, • Overcoming Resistance to People Analytics, • Communicate with Storytelling and Visualization
3	• Understanding Data and Basic Analytic Tools: Know Your Data, A Pragmatic View of Data, • Solving Data Quality Challenges, • Data Types and Sources, Data Governance, • Creating HR Dashboards using Microsoft Excel, • Applying Pivot Tables to HR data, • Application of Tableau in HR Data Visualization
4	• Analytics in Various Functions and Processes: Staffing Analytics, • Analytics in Manpower Planning, • Training and Development Analytics, • Analytics in Performance Management, • Engagement Analytics, Analytics in Absenteeism, • Turnover, Case Studies on various analytics

Day 5

Marketing Analytics with Modern AI Applicants

- **Lecturer:** *Dr. Hossein Peyvandi*
- **Format**: *Hands-on + Theory*
- **Focus**: *GNNs, NLP, Transformers, Recommender Systems*

- **Overview:** Participants will explore how Graph Neural Networks (GNNs), Natural Language Processing (NLP), recommender systems, and Transformer models can be used to predict customer behavior, personalize marketing, and enhance analytics.

1. Introduction to AI in Marketing	Overview of AI-driven marketing trends, case examples, and business impact.
2. NLP for Sentiment Analysis	Using transformers to interpret and classify customer reviews and feedback.
3. GNNs for Marketing	Building customer graphs and applying GNNs to detect communities and churn risk.
4. Recommender Systems	Techniques for product recommendation and CRM optimization.
5. Live Demo	End-to-end customer journey modeling using Python tools
6. Ethics in Marketing AI	Discussion of privacy, transparency, and ethical concerns

Day 6

Marketing Analytics with Modern AI Applicants

- **Lecturer:** *Dr. Hossein Peyvandi*
- **Format**: *Hands-on + Theory*
- **Focus**: *GNNs for Organizational Network and Talent Analytics*

- **Overview:** PThis one-day workshop demonstrates how to apply Graph Neural Networks (GNNs) in HR analytics. Participants will learn to build graph models of communication, collaboration, and skills across organizations. We explore how these networks help predict attrition, improve team dynamics, and support talent development.

Organizational Graphs	Mapping HR relationships and interactions as networks
Introduction to GNNs	Concepts of GCN and GAT with tools like PyTorch Geometric.
Talent Analytics	Using GNNs to model employee performance and promotion potential
Communication Nets	Analyzing team structure/ collaboration ef iciency using GNNs
Ethics & Privacy	Managing data sensitivity and fairness in HR analytics.
Final Demo	Hands-on analysis and discussion with real-world HR graph data

Day 7

Marketing Analytics with Modern AI Applicants

- **Lecturer:** *Prof. Dursun Delen*
- **Focus**: *Focus: KNIME, CRISP-DM, Model Building, Best Practices*

- **Overview:** In this course you learn about the best practices in data science and how to execute them using an intuitive, visual, low-code/no-code software environment. There are no specific prerequisites or requirements for this course as it is designed to attract anyone at any skill and managerial level interested in learning data science.

Lesson 1: Data Science Overview	Lesson 1 defines data science, clarifies related terms and buzzwords, and introduces a simple taxonomy. It then covers the CRISP process, briefly reviews key methods and algorithms, and concludes with the evolution of AI and ML, including notable man vs. machine episodes.
Lesson 2: Data Science Tools	Lesson 2 focuses on data science tools and platforms. It begins with an overview of the tools landscape, then introduces KNIME—a popular open-source, no-code/low-code analytics platform—along with its key functions (nodes) and extensions. The lesson ends with a demo using a small dataset.
Lesson 3: ML Model Development with KNIME Analytics Platform	Lesson 3 covers machine learning model development in KNIME. It begins with importing customer churn data, then moves to merging, exploring, and preprocessing the dataset. Several ML models are developed and tested, followed by a comparison of their predictive performance using scorer and ROC curves.
Lesson 4: Best Practices in Data Science and AI/ML	Lesson 4 explores best practices in data science, highlighting it as both an art and a science. It begins with the class imbalance problem and its solutions, then covers cross-validation for managing the bias-variance trade-off. Next, it reviews model ensemble techniques and their pros and cons. The lesson concludes with model explainability (XAI), all demonstrated using the KNIME platform.

Our Team

Meet the expert mentors guiding our journey—scholars and leaders shaping our scientific vision.

Scientific Leadership Council

Prof. A. Mirzazadeh

Ph.D, Industrial Engineering

click here

Dr. M.Vahid Sebt

Ph.D, Systems Management

click here

Dr. Reza Yousefi

PhD, Operations Research

click here

Dr. Roya Soltani

Ph.D, Industrial Engineering

click here

Executive team

Nahid Balehmoghaddas

Executive Project Manager

MSc in Industrial Engineering

Saina Sahragard

Web Designer

Elahe Reeyazati

Marketing Manager

MSc, Business Administration

Contact & Registration

Ready to join us in Dubai?

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