

MIT | SA+P

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

DATA SCIENCE IN REAL ESTATE

ONLINE SHORT COURSE

Make more informed, data-driven real estate investment decisions.

MIT | Center for Real Estate

DELIVERED IN
COLLABORATION WITH  **getsmarter™**

ABOUT THIS PROGRAM

Smart data analytics is giving real estate professionals and investors more insight into the factors impacting property value than ever before. From assessing risks to analyzing evolving trends, we're now able to anticipate the success of a property more accurately thanks to the abundance of information available to us.

The MIT School of Architecture and Planning (MIT SA+P) Data Science in Real Estate online short course is designed to give you the foundational tools to predict and explain property performance. The program introduces you to the application of machine learning in the built environment while teaching you to use data science methods to identify and interpret patterns in order to analyze property risks and opportunities. You'll also learn about the growing number of data resources used by real estate practitioners, which have been borrowed from a range of other sectors across the economy. Over six weeks, you'll explore what it means to be a good data scientist from both a technical and ethical perspective as you gain the practical data science skills to make informed, data-driven investment decisions.

WHAT THE COURSE COVERS

By making complex data science techniques more accessible to non-technical professionals, this program provides you with the knowledge to harness statistical insights in your real-life property endeavours.

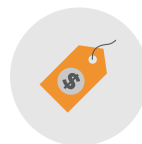
Over the course of the program you'll examine the wide variety of data used by real estate practitioners, including nontraditional data on factors such as the availability of natural light or access to highly rated amenities. You'll also gain practical skills in the use of open-source data science tools to tidy, integrate, and evaluate data.

The course draws on real-life examples while teaching you to generate a selection of basic data science and machine learning models that can be used to explain industry experiences and forecast asset values.

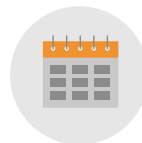
Guided by industry experts, you'll develop an understanding of the practical opportunities and challenges of using these data-driven methods to support investment decisions in real estate, and their ethical implications. You'll also consider appropriate strategies to align data science analysis with performance analysis in real estate, and learn to communicate data-driven value propositions to relevant stakeholders.

The program is designed to cultivate the development of a forward-thinking community of professionals. In doing so, it equips you with the knowledge to interrogate the quality and value-add of data science products and services.

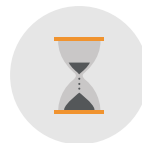
On completing this course, you'll understand how data science techniques can be practically applied to extract meaningful insights, and how these insights can support a holistic assessment of the potential of real estate investments or development ventures.



\$1,900



6 weeks,
excluding orientation



7–10 hours/week of self-paced
learning, entirely online

Each module is released weekly, allowing a flexible but structured approach to learning. You'll be supported as you engage in individual activities and group discussions, ensuring you feel confident to submit your best work at each weekly deadline.

THIS PROGRAM IS FOR YOU IF YOU WANT TO:



Harness data to make better investment decisions and discover new real estate opportunities.



Update your skillset to perform statistical analyses and modeling using interactive software applications.



Gain insight into the real-world use of data from esteemed MIT faculty and industry experts in the real estate, finance, and IT sectors.

WHO SHOULD TAKE THIS COURSE?

This program is designed for anyone with an interest in real estate development, finance and investment, or data science. The analytics skills taught will benefit both real estate professionals and independent investors looking to grow their property portfolios.

The content will also be useful for those with an existing knowledge of data science, who would like to explore how to use it in the real estate environment. Overall, the course will give professionals interested in the built environment a competitive edge, as it teaches skills that are relevant for analysis, valuation, and informed decision making.

While this course has no formal prerequisites, it's recommended that you have a basic understanding of programming. You won't be expected to write code, but will need to understand and manipulate code written in the programming language R.



WHAT YOU'LL LEARN

This online program integrates rich, interactive media such as videos, infographics, and e-learning activities, as well as didactic components such as downloadable course notes. There are also opportunities for collaborative learning through discussion forums. The following modules contribute to the holistic approach your learning path takes:

ORIENTATION MODULE

WELCOME TO YOUR ONLINE CAMPUS

ONE WEEK

You'll be welcomed to the course and begin connecting with fellow participants, while exploring the navigation and tools of your Online Campus.

Be alerted to key milestones in the learning path, and review how your results will be calculated and distributed. You'll be required to complete a participant profile, confirm your certificate delivery address, and submit a digital copy of your passport/identity document.

MODULE 1

DATA SCIENCE AND MACHINE LEARNING PRINCIPLES

Understanding data science and machine learning concepts used in the built environment.

MODULE 2

USING REAL ESTATE DATA

Learn how to prepare real-world data for analysis.

MODULE 3

INITIAL INSIGHTS USING STATISTICS

Understand the value of quantifying and detecting patterns in data.

MODULE 4

USING DATA SCIENCE TO ASK QUESTIONS

Discover relationships in data to explain and predict real estate data features and outcomes.

MODULE 5

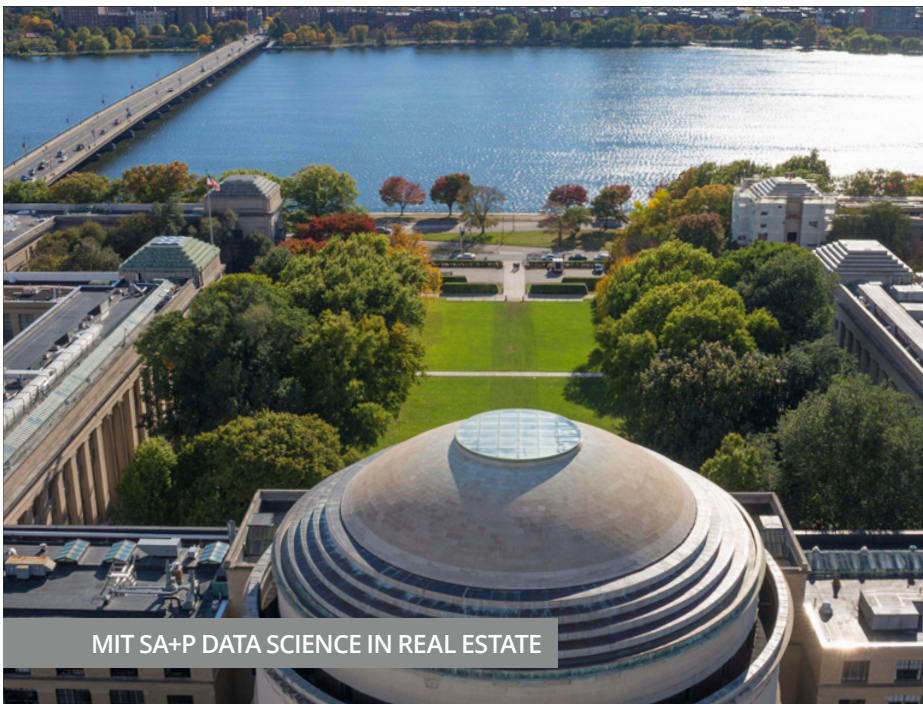
RELATIONSHIPS IN REAL ESTATE DATA

Understand relationships between outcomes and features using regression analysis.

MODULE 6

FORECASTING IN REAL ESTATE

Discover how to use machine learning to forecast outcomes and support decision-making in real estate.



MIT SA+P DATA SCIENCE IN REAL ESTATE

WHAT IS MIT SA+P?

Find out more about the
**MIT SCHOOL OF
ARCHITECTURE
AND PLANNING**

YOUR PROGRAM EXPERTS

YOUR FACULTY DIRECTOR

These subject matter experts from the MIT School of Architecture and Planning guide the course design and appear in a number of program videos, along with a variety of industry professionals.



ANDREA CHEGUT

Director, MIT Real Estate Innovation Lab, Head of Research, DesignX & Research Scientist, MIT Center for Real Estate

Dr Andrea Chegut is the cofounder and director of the MIT Real Estate Innovation Lab, an interdisciplinary team that identifies built environment innovative products, processes and technologies, and their financial and economic impact. Chegut is also a cofounder and the head of research for DesignX, an entrepreneurial accelerator for new student and faculty ventures from MIT SA+P that focuses on design, cities, and the built environment. In addition to her research, Chegut teaches classes on innovation, corporate finance and entrepreneurship at MIT. Chegut did her PhD in financial economics and has worked at the intersection of innovation, urban economics, and real estate for over a decade. Prior to her work at MIT, she had a career in securities asset pricing, and worked in Europe on developing asset pricing models for commercial real estate, green buildings, and digital infrastructure.

INDUSTRY EXPERTS

Learn from the expert insights of leading real estate data scientists, economists and machine learning practitioners as you explore the different aspects of property performance. These experts offer feedback on real-life challenges faced in the workplace, helping you to take your learnings beyond theory and into practical application.



ANNE KINSELLA THOMPSON

Visiting Lecturer and Real Estate Economist, MIT Center for Real Estate



STEVE WEIKAL

Head of Industry Relations CRE Tech Lead, Real Estate Innovation Lab



PROF DENNIS FRENCHMAN

Class of 1922 Professor of Urban Design and Planning, Director, MIT Center for Real Estate



JACOB SAGI

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CHRISTOPH REINHART

Professor of Architecture, Director of Building Technology Program, MIT School of Architecture and Planning Founder and Director, Sustainable Design Lab



WAYNE YU

VP of Data Science, CompStak



BOB WHITE

Founder and President,
Real Capital Analytics



L.D. SALMONSON

CEO and Co-Founder, Cherre



CALANDRA CRUICKSHANK

President and CEO,
StateBook International



BEN BRESLAU

Chief Research Officer,
Americas, JLL



PHOEBE HOLTZMAN

CEO, Live XYZ



DAVID GELTNER

Professor of Real Estate Finance,
MIT Faculty Director of Commercial
Real Estate Analysis and Investment
online program

“Data integration is the most important thing for real estate right now. The opportunity afforded to us as an industry, using big data and using the computing power that’s now available to us through programs like you have at MIT, I think it’s going to open up a huge opportunity for the industry as a whole.”

- ANDREA CHEGUT

Director, MIT Real Estate Innovation Lab, Head of Research, DesignX & Research Scientist, MIT Center for Real Estate

YOUR SUCCESS TEAM

GetSmarter, with whom MIT SA+P is collaborating to deliver this online program, provides a personalized approach to online education that ensures you’re supported throughout your learning journey.



HEAD FACILITATOR

A subject expert who’ll guide you through content-related challenges.



SUCCESS MANAGER

Your one-on-one support available during university hours (8am–5pm EST) to resolve technical and administrative challenges.



GLOBAL SUCCESS TEAM

Available 24/7 to solve your tech-related and administrative queries and concerns.

A POWERFUL COLLABORATION

The MIT School of Architecture and Planning is collaborating with online education provider GetSmarter to create a new class of learning experience — one that is high-touch, intimate, and personalized for the working professional.

WHAT IS MIT SA+P?

The MIT School of Architecture and Planning is one of five schools at MIT, and comprises six main divisions. Alongside the MIT Center for Real Estate, MIT SA+P includes the first Department of Architecture in the US, founded in 1868. It also contains the oldest, continuous Department of Urban Studies and Planning, founded in 1933. The first university Media Lab launched in 1980 at MIT SA+P, and it continues to “check traditional disciplines at the door” to empower the invention — and reinvention — of how humans experience, and can be aided by, technology. MIT SA+P is also home to the Norman B. Leventhal Center for Advanced Urbanism, which is dedicated to guiding the future of the built environment and cities.

WHAT IS THE MIT CENTER FOR REAL ESTATE?

Envisioning the real estate industry’s integrated stewardship of its land and products, the MIT Center for Real Estate provides tomorrow’s practitioners with the means to transform an ever more vital, global, and complex market. Through research and education initiatives, MIT applies its tradition of excellence in technology, knowledge transfer, and global reach to the real estate industry, developing innovations to help practitioners build responsibly and profitably.

WHAT IS THE REAL ESTATE INNOVATION LAB?

The MIT Real Estate Innovation Lab is a research and development laboratory for the built environment that measures the financial and economic performance of innovation in real estate, design and planning. It’s a team of interdisciplinary researchers in planning, design, finance and economics using data science and machine learning techniques to explain and predict the impact of innovation and technology in real estate.

WHAT IS MIT CRE?

Find out more about the
**MIT CENTER FOR
REAL ESTATE**



WHAT IS THE REAL ESTATE INNOVATION LAB?

Find out more about the

REAL ESTATE INNOVATION LAB

WHAT IS GETSMARTER?

GetSmarter, a brand of 2U, Inc. brand, partners with the world's leading universities to select, design and deliver premium online short courses with a data-driven focus on learning gain.

Technology meets academic rigor in GetSmarter's people-mediated model, which enables lifelong learners across the globe to obtain industry-relevant skills that are certified by the world's most reputable academic institutions.

MIT SCHOOL OF ARCHITECTURE AND PLANNING CERTIFICATE

This program offers you the opportunity to earn a certificate from MIT SA+P as validation of your skills.

Assessment is continuous and based on a series of practical assignments completed online. In order to be issued with an MIT School of Architecture and Planning certificate you will need to meet the requirements outlined in the course handbook. The handbook will be made available to you as soon as you begin the program.

Your certificate will be issued in your legal name and sent to you upon successful completion of the course, as per the stipulated requirements.



HOW YOU'LL LEARN

Every program is broken down into manageable, weekly modules, designed to accelerate your learning process through diverse learning activities:

- Work through your downloadable and online instructional material
- Interact with your peers and learning facilitators through weekly class-wide forums and reviewed small group discussions
- Enjoy a wide range of interactive content, including video lectures, infographics, live polls, and more
- Investigate rich, real-world case studies
- Apply what you learn each week to quizzes and ongoing project submissions, culminating in the ability to create guided property forecasts to support real-world decision-making

GENERAL REQUIREMENTS

BASIC REQUIREMENTS

In order to complete this course, you'll need a current email account and access to a computer and the internet, as well as a [PDF Reader](#). You may need to view Microsoft PowerPoint presentations, and read and create documents in Microsoft Word or Excel.

BROWSER REQUIREMENTS

We recommend that you use Google Chrome as your internet browser when accessing the Online Campus. Although this is not a requirement, we have found that this browser performs best for ease of access to program material. This browser can be downloaded [here](#).

ADDITIONAL REQUIREMENTS

Certain programs may require additional software and resources. These additional software and resource requirements will be communicated to you upon registration and/or at the beginning of the course. Please note that Google, Vimeo, and YouTube may be used in our program delivery, and if these services are blocked in your jurisdiction, you may have difficulty in accessing course content. Please check with an Enrollment Adviser before registering for this program if you have any concerns about this affecting your experience with the Online Campus.





MASSACHUSETTS INSTITUTE OF TECHNOLOGY

DATA SCIENCE IN REAL ESTATE

ONLINE SHORT COURSE



Discover how machine learning can support your decision-making in real estate

REGISTER NOW

CONTACT US

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