



Real Time College

Data Science \ Machine Learning Complete Track

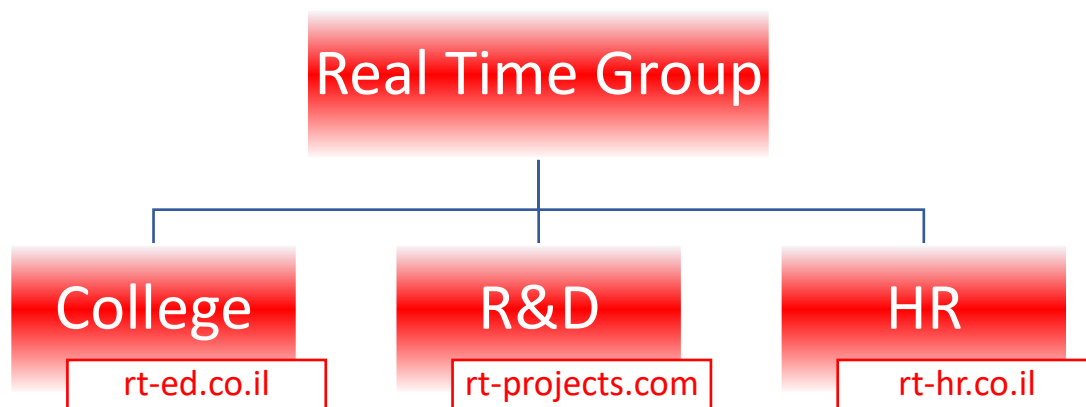
Course Duration: **525** Hours
Hands-On Training: **60%**



Real Time Group is a multi-disciplinary dynamic and innovative Real-Time O.S. and Embedded Software Solutions Center, established in 2007.

Providing Bare-Metal, Embedded Linux and Cyber solutions, professional services and consulting, end-to-end flexible system infrastructure, outsourcing, integration and training services for Hardware, Software and RT-OS \ Embedded Systems.

The company is divided into the following three Divisions:



Training Division:

Professional Training Services for Hardware, Software, RT Embedded, Cyber and IT industries.

We provide the knowledge and experience needed to enable professional personal to Develop, Integrate and QA Hardware, Software and Networking Projects.

Throughout the course we will be using the latest DevOps, QA and Automation equipment which are adopted by the industry.

All students are supplied with necessary equipment (i.e. software license, AWS Account, etc) for Class -work \ Home-work and course projects.

Course Overview:

Being a leading provider of Machine Learning \ Deep learning Solutions with many ongoing Development projects, we have gained experience solving hundreds of complex projects.

That's why we know exactly what it takes to make you one of us.

This RT-Group's hand-on-training course, provides the most complete and comprehensive Machine Learning Engineering Full Path.

It's designed to provide the knowledge, development tools, the experience needed in order to place you as a Machine Learning Developer and help you integrate in our company's Development Division and the Israeli \ word-wide Hi-Tech industry.

The track is composed out of 10 courses and includes all the ML development stages. The Track is divided into 2 parts:

1. **Software Development Courses** (on the right side)

A complete guide to Programming using Python, focusing on giving you real world Machine Learning coding experience, by working with Data Bases, Data Analytics tools using ML oriented Python libraries such as Numpy, SciPy and Matplotlib.

Data is maintained in Databases, for this reason you'll also learn how to work with SQL, MongoDB using Cloud Computing (AWS, Google cloud and micro-services).

2. **Machine Learning Courses** (on the left side)

We'll start with basics of ML, the purpose of ML, where it applies in the real world. Types of ML, such as supervised vs unsupervised learning, model evaluation, then we'll dive into "**Implementing ML with Python**", where we'll start implementing Machine Learning techniques with python such as regression, classification, clustering, algorithms such as sci-kit learn, K Nearest neighbors, k means clustering, implement solutions with Neural Networks using platforms such as Tensorflow and Keras.

Who should attend:

- System programmers \ Engineers who wish to work with ML.
- Students who wish to specialize in\work as Data Science (most of the course is adequate for Data Analysts \ Business Intelligence as well).
- Students who wish to specialize in\work as Computer Vision (**Additional Courses are needed for this field, check the following web page – <https://rt-ed.co.il/courses/image-processing-course/> or contact us).

Prerequisite:

- Basic Computer skills (Operating windows OS).
- Basic knowledge in math and statistics (no need to be a mathematician just the basics 😊).

No previous experience in PROGRAMMING is necessary, its taught as part of this [Machine Learning Full Path](#)



The following table concludes the list of **Software oriented courses** in the Track, Feel free to click on the required course name for an elaborated Syllabus per course.

Course Name	Course Description	Length [AH]
<p>Python Basic</p>	<p>Python, a general-purpose programming language. is interpreted and dynamically typed, built upon a small core of packages, it's very well suited for interactive work and quick prototyping, while being powerful enough to write large applications. Focusing on Python 3, we'll provide the essentials of Python programming.</p>	45
<p>Advanced Python</p>	<p>Advanced Python topics, Utilizing the power of object-oriented programming. Implementing Multi-threaded programs, Sockets, access to databases, sophisticated algorithms and more.</p>	45
<p>Scientific Python</p>	<p>Python offers a wide range of libraries that can be used for ML (NumPy, SciPy, Matplotlib, Panda and more). In this course we'll learn how to use these libraries and simplify the developer's ability to write advanced and reliable code.</p>	35
<p>SQL</p>	<p>Learn how to use SQL to store, query, and manipulate data. SQL is a special-purpose programming language designed for managing data in a relational database and is used by a huge number of apps and organizations.</p>	40
<p>Amazon Web Services</p>	<p>The Course is designed to help you gain an in-depth understanding of Amazon Web Services (AWS) architectural principles and services, you will learn how to design and scale AWS Cloud implementations with best practices recommended by Amazon.</p>	35

The following table concludes the list of Machine Learning courses in the Track.
 If you already have experience with the previous part, you can register to the courses in the following part **aka Machine Learning Short Track**.

Feel free to click on the required course name for an elaborated Syllabus per course.

Course Name	Course Description	Length [AH]
Machine Learning Fundamentals	Machine Learning can adapt its behavior based on past programming activity and feedback. This Course introduces Machine Learning theory and foundations as well as best practices for ML.	35
Machine Learning with Python	This course is the core of the Machine Learning Engineering Track, Within the course we'll implement ML applications using different techniques such as regression, classification, clustering, we'll learn algorithms such as sci-kit learn, K Nearest neighbors, k means clustering, implement solutions. The Course is designed to provide the knowledge, development tools and experience needed to place you as a Machine Learning Developer in the Tech industry.	60
Big Data and Cloud Computing	Big Data and Cloud Computing course is a comprehensive training which teaches how to analyze huge volumes of data using cloud services and their strategic advantages.	40
Deep Learning	Deep Learning / Deep Neural Networks is inspired from how the human brain works and is the most advanced subset of artificial intelligence. You'll learn how to develop & test Deep Learning models using TensorFlow \ Kara's platforms for ML and Neural Networks projects.	60

<p><u>Git</u> <u>(Source Control)</u></p>	<p>Git, is a tool to save versions of your code and software development process. In this course you will learn Git's core features and workflow, different ways to undo changes or save multiple versions of a project, and how to collaborate with other teams and developers.</p>	<p>30</p>
<p>Final Project</p>	<p>Implementing a Real-World project (usually requested by our Clients) with our Development Team, using the knowledge gained throughout the Track.</p>	<p>100</p>
<p>Total</p>	<p>425 AH - Course Length +100 AH - Final Project + 1 on 1 whenever needed + 3 - 6 Months Internship</p>	

The following Block Diagram concludes the list of courses in the Track.
 Feel free to click on the required course name for a detailed description.

