

Data Analyst track

Syllabus

Each sprint lasts two weeks and represents approximately 40 hours of study.

7 months

Onboarding

1-2 hours

What to expect as a Practicum student. How sprints are structured, who's on our guidance team, how to use Slack, where to find information, and more.

0 Introductory Course: Python and Data Analysis Basics

2 weeks, 20 hours

Discover what data analysis is and do your first research as an analyst. Learn the basics of Python, a key tool in the profession. This course will help you decide if you have the time and motivation to complete the full program.

- Chapter 1. Variables, Printing, Data Types, and Arithmetic Operations
- Chapter 2. Strings
- Chapter 3. Lists
- Chapter 4. for Loops
- Chapter 5. Nested Lists
- Chapter 6. Conditions and Loops
- Chapter 7. Creating Functions
- Chapter 8. Dictionaries
- Chapter 9. pandas for Data Analysis
- Chapter 10. Data Preprocessing
- Chapter 11. Analyzing Data and Presenting Results
- Chapter 12. A Quick Overview of the Jupyter Notebook



1 Data Preprocessing

Compensating for less-than-perfect data. Handling missing and duplicate values. Changing data types. Systems thinking for analysts.

+1 project for
your portfolio
2 weeks, 40 hours

- Chapter 1. Working with Missing and Duplicate Values
- Chapter 2. Changing Data Types
- Chapter 3. Categorizing Data
- Chapter 4. Systems and Critical Thinking for Analysts

2 Exploratory Data Analysis (EDA)

Performing initial scans to detect patterns in data. Building basic graphs and generating your first hypotheses.

+1 project for
your portfolio
2 weeks, 40 hours

- Chapter 1. First Graphs and Conclusions
- Chapter 2. Data Slices
- Chapter 3. Working with Several Data Sources
- Chapter 4. Relationships Between Datasets
- Chapter 5. Validating Results

3 Statistical Data Analysis

Probability theory, the most common distributions, and statistical methods in Python. Sampling and statistical significance. Identifying and handling anomalies.

+1 project for
your portfolio
2 weeks, 40 hours

- Chapter 1. Descriptive Statistics
- Chapter 2. Probability Theory
- Chapter 3. Testing Hypotheses

4 Integrated Project 1

Identify patterns to help you determine whether a given video game will succeed or not.

+1 project for
your portfolio
1 week, 20 hours

1-week break

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Data Collection and Storage (SQL)

How databases are structured and how to pull data from them using SQL queries. Finding data online.

+1 project for
your portfolio
2 weeks, 40 hours

- Chapter 1. Retrieving Data from Online Resources
- Chapter 2. SQL as a Tool for Working with Data
- Chapter 3. Advanced SQL Features for Analysts
- Chapter 4. Relationships Between Tables
- Chapter 5. Soft Skills
- Chapter 6. PySpark

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Business Analytics

Applying data analysis in business. Business metrics and KPIs. User data analysis. Marketing analytics and related tools. The sales funnel.

+1 project for
your portfolio
2 weeks, 40 hours

- Chapter 1. Metrics and Funnels
- Chapter 2. Cohort Analysis
- Chapter 3. Unit Economics
- Chapter 4. User Metrics
- Chapter 5. Soft Skills
- Bonus Lesson: Optimizing Data in pandas

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Making Business Decisions Based on Data

Methods and tools for testing hypotheses. Experimental design. Seasonality. Cohort analysis. A/B testing.

+1 project for
your portfolio
2 weeks, 40 hours

- Chapter 1. The Basics of Testing Hypotheses in Business
- Chapter 2. Choosing an Experimental Method
- Chapter 3. Prioritizing Hypotheses
- Chapter 4. Preparing for an A/B Test
- Chapter 5. Analyzing the Results of A/B Test
- Chapter 6. Soft Skills

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How to Tell a Story Using Data

Presenting your research. Data visualization methods. Creating reports to explain findings. The seaborn library.

- Chapter 1. Preparing Presentations
- Chapter 2. The seaborn Library
- Chapter 3. The plotly Library

+1 project for
your portfolio
2 weeks, 40 hours

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Integrated Project 2

Bring together everything you've learned so far to analyze the results of a food app's A/A/B test.

+1 project for
your portfolio
1 week, 20 hours

1-week break

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Automation

Automating data analysis processes and scripting routine tasks. Data visualization methods. Presenting results.

- Chapter 1. Data Pipelines and Why to Use Them
- Chapter 2. Designing and Developing Dashboards with Dash
- Chapter 3. Tableau

+1 project for
your portfolio
2 weeks, 40 hours

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Forecasts and Predictions

Basic machine learning methods and applications. Classification, forecasting, clustering. Regression. Decision trees.

- Chapter 1. Business Tasks Involving Machine Learning
- Chapter 2. Machine Learning Algorithms
- Chapter 3. Solving Tasks Related to Machine Learning

+1 project for
your portfolio
2 weeks, 40 hours

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Final Project

Apply everything you've learned in a two-week bootcamp that recreates the experience of working as a junior analyst.

+1 project for
your portfolio
2 weeks, 40 hours

Career Track

Welcome to a Career Center of Practicum! Who are we? **We are a bridge** between quality education institute and leading IT employers, helping you to increase **employability** and implementing innovative solutions for employers.

What will be waiting for you?

Part 1. Career Track - Self Paced Course

20 hours

- **Introduction to Israeli job market**
- **How to present myself:**
 - Self-presentation
 - Storytelling through CV
 - Online presence through LinkedIn and Github
 - Cover letter and it's main goal
- **Looking for a job is a job:**
 - How to pass a job interview
 - Networking skills
 - Job interview negotiations
 - What could go wrong?
 - How to hack HR?
 - Hunting for jobs

Part 2. Let's practice - Career with a human touch

20 hours

- Attend mock interviews
- Receive 1:1 career coaching
- Attend professional meetups and networking events
- Get our support even when you graduate till you find a job