



5 Courses

Programming for Everybody
(Getting Started with Python)

Python Data Structures

Using Python to Access Web
Data

Using Databases with Python

Capstone: Retrieving,
Processing, and Visualizing Data
with Python



08/26/2020

JONAS BETFIANG

has successfully completed the online, non-credit Specialization

Python for Everybody

This Specialization builds on the success of the Python for Everybody course and will introduce fundamental programming concepts including data structures, networked application program interfaces, and databases, using the Python programming language. In the Capstone Project, you'll use the technologies learned throughout the Specialization to design and create your own applications for data retrieval, processing, and visualization.

Charles Severance
Clinical Associate
Professor, School of
Information
University of Michigan

The online specialization named in this certificate may draw on material from courses taught on-campus, but the included courses are not equivalent to on-campus courses. Participation in this online specialization does not constitute enrollment at this university. This certificate does not confer a University grade, course credit or degree, and it does not verify the identity of the learner.

Verify this certificate at:
coursera.org/verify/specialization/5P8ALVH35ADG



9 Courses

Introduction to Data Analytics

Excel Basics for Data Analysis

Data Visualization and Dashboards with Excel and Cognos

Python for Data Science, AI & Development

Python Project for Data Science

Databases and SQL for Data Science with Python

Data Analysis with Python

Data Visualization with Python

IBM Data Analyst Capstone Project



Jun 26, 2021

JONAS BETFIANG

has successfully completed the online, non-credit Professional Certificate

IBM Data Analyst

This IBM Professional Certificate is earned after successfully completing 9 courses on various topics in Data Analytics. The learner understands the core principles of data analysis and has worked hands-on with a variety of data sources, project scenarios, and data analysis tools, including Excel, SQL, Relational Databases, Python, Jupyter Notebooks, and Cognos Analytics, gaining practical experience with data manipulation, data analysis, and data visualization. The earner of this Certificate has demonstrated proficiency in applying different analytical techniques by analyzing real-world datasets, creating visualizations & interactive dashboards, and presenting reports to share findings of data analysis, and is now equipped with skills for an entry-level role in data analytics.

Rav Ahuja, Program
Director, IBM Skills
Network

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Verify this certificate at:
[coursera.org/verify/professional-
cert/YU49GGRD826R](https://coursera.org/verify/professional-cert/YU49GGRD826R)



10 Courses

What is Data Science?

Tools for Data Science

Data Science Methodology

**Python for Data Science, AI
& Development**

**Python Project for Data
Science**

**Databases and SQL for Data
Science with Python**

Data Analysis with Python

**Data Visualization with
Python**

**Machine Learning with
Python**

**Applied Data Science
Capstone**



Apr 17, 2021

JONAS BETFIANG

has successfully completed the online, non-credit Professional Certificate

IBM Data Science

In this Professional Certificate learners developed and honed hands-on skills in Data Science and Machine Learning. Learners started with an orientation of Data Science and its Methodology, became familiar and used a variety of data science tools, learned Python and SQL, performed Data Visualization and Analysis, and created Machine Learning models. In the process they completed several labs and assignments on the cloud including a Capstone Project at the end to apply and demonstrate their knowledge and skills.

Rav Ahuja
AI & Data Science
Program Director
IBM Skills Network

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Verify this certificate at:
[coursera.org/verify/professional-
cert/AHHP88DQNF5](https://coursera.org/verify/professional-cert/AHHP88DQNF5)



3 Courses

Introduction to NoSQL
Databases

Introduction to Big Data
with Spark and Hadoop

Data Engineering and
Machine Learning using
Spark



Feb 19, 2022

JONAS BETFIANG

has successfully completed the online, non-credit Specialization

NoSQL, Big Data, and Spark Foundations

The earner of this certificate has demonstrated mastery of fundamental NoSQL and Big Data skills. This includes working with NoSQL databases- MongoDB, IBM Cloudant, & Apache Cassandra - to perform tasks like CRUD operations. As well as foundational knowledge of Big Data tools & ecosystem including Apache Hadoop, Apache Hive, HDFS, MapReduce, Apache Spark, Spark SQL, Spark Structured Streaming, Spark ML, scaling Spark with Kubernetes, and Monitoring and Performance Tuning Spark jobs. This program focused on developing hands-on practical skills and culminated with a project involving ETL processing and Machine Learning model deployment using Spark. The learner is now proficient with the skills and knowledge for essential big data management tasks and challenges requiring NoSQL and Spark.

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Romeo Kienzler
Chief Data Scientist
IBM Watson IoT

Rav Ahuja
Global Program
Director,
Skills Network

Steve Ryan
Instructional Designer &
Content Developer
Skill-Up Technologies

Aije Egwaikhide
Senior Data Scientist
IBM

Ramesh Sannareddy
Data Engineering
Subject Matter Expert
Skill-up Technologies

Karthik Muthuraman
Software Engineer
(Machine Learning)
IBM Center for Open-
Source Data and AI
Technologies

Verify this certificate at:

coursera.org/verify/specialization/HQLAMFY6CWAX



13 Courses

Introduction to Data Engineering

Python for Data Science, AI & Development

Python Project for Data Engineering

Introduction to Relational Databases (RDBMS)

Databases and SQL for Data Science with Python

Hands-on Introduction to Linux Commands and Shell Scripting

Relational Database Administration (DBA)

ETL and Data Pipelines with Shell, Airflow and Kafka

Getting Started with Data Warehousing and BI Analytics

Introduction to NoSQL Databases

Introduction to Big Data with Spark and Hadoop

Data Engineering and Machine Learning using Spark

Data Engineering Capstone Project



Mar 24, 2022

JONAS BETFIANG

has successfully completed the online, non-credit Professional Certificate

IBM Data Engineering

In this Professional Certificate, learners developed essential knowledge and skills to perform the many tasks in an entry-level data engineering role. By completing over a dozen courses in the program, the earner of this Professional Certificate has demonstrated a firm grasp on and practical experience with fundamentals of Relational Databases, Database Architecture, Design, & Administration, Data Warehousing, Querying databases with SQL and BI Tools, ETL with Python Programming language and Shell Scripts, NoSQL, and Big Data processing using Apache Spark. Learners have applied all these skills to complete a Capstone Project involving the design, deployment and management of a complete data engineering platform inspired by a real-world data analytics requirements scenario.

Rav Ahuja, Program
Director, IBM Skills
Network

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Verify this certificate at:

<https://coursera.org/verify/professional-cert/VNDLPA4JUNG9>



7 Courses

Introduction to Data Engineering

Introduction to Relational Databases (RDBMS)

Databases and SQL for Data Science with Python

Hands-on Introduction to Linux Commands and Shell Scripting

Relational Database Administration (DBA)

ETL and Data Pipelines with Shell, Airflow and Kafka

Getting Started with Data Warehousing and BI Analytics



Mar 24, 2022

JONAS BETFIANG

has successfully completed the online, non-credit Professional Certificate

IBM Data Warehouse Engineer

In this program, learners developed and honed the essential skills for designing, loading, managing and querying relational databases and data warehouses. Completers of this Certificate should be able to: Compose various types of SQL statements and queries to access and manipulate data in databases; Deploy, Secure, Operationalize, Monitor and Optimize relational database systems like MySQL, PostgreSQL, and DB2; Build Data Pipelines to extract, transform and load data repositories using shell scripts, and tools such as Apache Airflow & Kafka; Design and populate Data Warehouses and analyze their data with Business Intelligence (BI) tools like Cognos Analytics. The certificate holder should now be ready to take on the challenges of an entry-level role in Data Warehouse Engineering.

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Rav Ahuja,
Global Program
Director,
IBM Skills Network

Verify this certificate at:

<https://coursera.org/verify/professional-cert/SNZEAR6AVLYM>