



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**

Jun 12, 2023

Chen Shen

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.

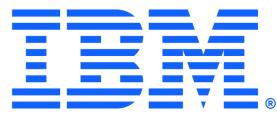
The online specialization named in this certificate may draw on material from courses taught on-campus, but the included courses are not equivalent to on-campus courses. Participation in this online specialization does not constitute enrollment at this university. This certificate does not confer a University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

A handwritten signature in black ink, appearing to read "Rav Ahuja".

Rav Ahuja, Program Director, IBM Skills Network

Verify this certificate at:

<https://coursera.org/verify/profession-al-cert/PLCN3UR9L9LT>



Dec 10, 2022

Chen Shen

has successfully completed

Introduction to Data Engineering

an online non-credit course authorized by IBM and offered through Coursera

Rav Ahuja
Global Program Director,
Skills Network

Priya Kapoor
Senior Instructional Designer & Content Developer
Skill-up Technologies

COURSE CERTIFICATE



Verify at:
<https://coursera.org/verify/6HCGYCMD2WBN>

Coursera has confirmed the identity of this individual and their participation in the course.



Dec 15, 2022

Chen Shen

has successfully completed

Python for Data Science, AI & Development

an online non-credit course authorized by IBM and offered through Coursera

Joseph Santarcangelo
Senior Data Scientist
IBM

COURSE CERTIFICATE



Verify at:
<https://coursera.org/verify/ABLKT7KGQSDW>

Coursera has confirmed the identity of this individual and their participation in the course.



Dec 16, 2022

Chen Shen

has successfully completed

Python Project for Data Engineering

an online non-credit course authorized by IBM and offered through Coursera

Ramesh Sannareddy J Santarcangelo

Ramesh Sannareddy
Data Engineering Subject Matter Expert
Skill-up Technologies

Joseph Santarcangelo
Senior Data Scientist
IBM

COURSE CERTIFICATE



Verify at:
<https://coursera.org/verify/FW6CJM3RLJMC>

Coursera has confirmed the identity of this individual and their participation in the course.



Dec 18, 2022

Chen Shen

has successfully completed

Introduction to Relational Databases (RDBMS)

an online non-credit course authorized by IBM and offered through Coursera



Lin Joyner, Rav Ahuja, Rose Malcolm, Sandip Saha Joy

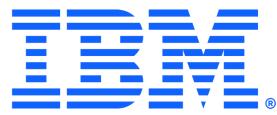
COURSE CERTIFICATE



Verify at:

<https://coursera.org/verify/HZ32R86HKGD6>

Coursera has confirmed the identity of this individual and their participation in the course.



Dec 22, 2022

Chen Shen

has successfully completed

Databases and SQL for Data Science with Python

an online non-credit course authorized by IBM and offered through Coursera

Rav Ahuja
Global Program Director,
Skills Network

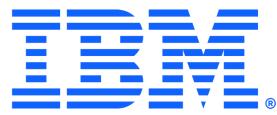
Hima Vasudevan
IBM

COURSE CERTIFICATE



Verify at:
<https://coursera.org/verify/7KCPNGX5F4LQ>

Coursera has confirmed the identity of this individual and their participation in the course.



Dec 23, 2022

Chen Shen

has successfully completed

Hands-on Introduction to Linux Commands and Shell Scripting

an online non-credit course authorized by IBM and offered through Coursera

Ramesh Sannareddy 

Rav Ahuja, Ramesh Sannareddy, Sam Prokopchuk
IBM Skills Network

COURSE CERTIFICATE



Verify at:
<https://coursera.org/verify/AJJ98S2WW7VB>

Coursera has confirmed the identity of this individual and their participation in the course.



Dec 26, 2022

Chen Shen

has successfully completed

Relational Database Administration (DBA)

an online non-credit course authorized by IBM and offered through Coursera

Ramesh Sannareddy

Ramesh Sannareddy
Data Engineering Subject Matter Expert
Skill-up Technologies

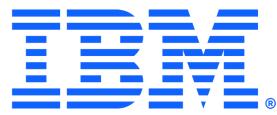
Rav Ahuja
Global Program Director,
Skills Network

COURSE CERTIFICATE



Verify at:
<https://coursera.org/verify/5UDGWV9XD9QB>

Coursera has confirmed the identity of this individual and their participation in the course.



Dec 28, 2022

Chen Shen

has successfully completed

ETL and Data Pipelines with Shell, Airflow and Kafka

an online non-credit course authorized by IBM and offered through Coursera

Yan Luo Ramesh Sannareddy S. Spillner Jeff Grossman

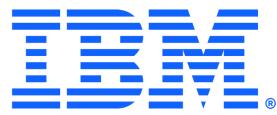
Yan Luo, Ramesh Sannareddy
Sabrina Spillner, Jeff Grossman

COURSE CERTIFICATE



Verify at:
<https://coursera.org/verify/S4Y3NSKREXS9>

Coursera has confirmed the identity of this individual and their participation in the course.



Dec 29, 2022

Chen Shen

has successfully completed

Getting Started with Data Warehousing and BI Analytics

an online non-credit course authorized by IBM and offered through Coursera

Ramesh Sannareddy

Ramesh Sannareddy
Data Engineering Subject Matter Expert
Skill-up Technologies

Rav Ahuja

Rav Ahuja
Global Program Director,
Skills Network

COURSE CERTIFICATE



Verify at:
<https://coursera.org/verify/YWUBL5GEFGUY>

Coursera has confirmed the identity of this individual and their participation in the course.



Jan 2, 2023

Chen Shen

has successfully completed

Introduction to NoSQL Databases

an online non-credit course authorized by IBM and offered through Coursera

Rav Ahuja

Rav Ahuja, Global Program Director, Skills Network

Ramesh Sannareddy, Data Engineering Subject Matter Expert, Skill-Up Technologies

Steve Ryan, Instructional Designer & Content Developer, Skill-Up Technologies

COURSE CERTIFICATE



Verify at:
<https://coursera.org/verify/5TWCQJ4EDY3U>

Coursera has confirmed the identity of this individual and their participation in the course.



Jun 7, 2023

Chen Shen

has successfully completed

Introduction to Big Data with Spark and Hadoop

an online non-credit course authorized by IBM and offered through Coursera

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

Aije Egwaikhede
Senior Data Scientist
IBM

COURSE CERTIFICATE



Verify at:
<https://coursera.org/verify/WQR4FRGVV4MF>

Coursera has confirmed the identity of this individual and their participation in the course.



Jun 8, 2023

Chen Shen

has successfully completed

Data Engineering and Machine Learning using Spark

an online non-credit course authorized by IBM and offered through Coursera

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

Romeo Kienzler
Chief Data Scientist
IBM Watson IoT

COURSE CERTIFICATE



Verify at:
<https://coursera.org/verify/9VE24AGQ7DDW>

Coursera has confirmed the identity of this individual and their participation in the course.