



4 Courses

Python and Pandas for Data Engineering

Linux and Bash for Data Engineering

Scripting with Python and SQL for Data Engineering

Web Applications and Command-Line Tools for Data Engineering



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**Joshua Okolo**

has successfully completed the online, non-credit Specialization

# Python, Bash and SQL Essentials for Data Engineering

By completing this Specialization, you have developed the foundational skills necessary for building data engineering solutions, including (1) setting up a version-controlled Python working environment which can utilize third party libraries; (2) developing the syntax needed to manage and manipulate databases in a Bash environment; (3) using a modern text editor to connect and run queries from a database, performing operations to load and extract data; and (4) applying Python microservices to break up data into portable solutions that can scale across multiple projects.

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.

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