



# CERTIFICATE of ACHIEVEMENT



A handwritten signature in black ink that reads 'Anthony D. Joseph'.

**Anthony D. Joseph**

Professor in Electrical Engineering and Computer Science  
University of California, Berkeley  
Technical Advisor  
Databricks

This is to certify that

مصطفى احمد محمد عباس رشوان

successfully completed and received a passing grade in

**CS100.1x: Introduction to Big Data with Apache Spark**

a course of study offered by BerkeleyX, an online learning  
initiative of The University of California, Berkeley through edX.

VERIFIED CERTIFICATE  
Issued July 10, 2015

Verify the authenticity of this certificate at  
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