



# CERTIFICATE *of* ACHIEVEMENT



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This is to certify that

## Douglas L Needham

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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